

# ANALYSIS OF REMOTE SUPPORT SERVICES

INPUT



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ANALYSIS OF REMOTE  
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AUGUST 1984



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## I INTRODUCTION





## I INTRODUCTION

- This study was undertaken by INPUT for the Advanced Service Technology group of Data General Service Inc., represented by Mr. Santi Lahiri. Two groups of primary research were undertaken:
  - 1,415 telephone interviews with users of equipment manufactured by Amdahl, IBM, DEC, Hewlett-Packard, Perkin-Elmer, Honeywell, Wang, Prime, NCR, and Burroughs.
  - Ten vendor interviews piggybacked on the face-to-face vendor interviews accomplished by INPUT during its second quarter research for the Customer Services Program.
- In addition, Remote Support Services (RSS) data was extracted from the European Customer Services reports to complement the U.S. research. All of this is contained in the Executive Summary.
- As with all custom study reports, data in this report can be queried for a 30-day period following final payment. However, to preserve the confidentiality of the data, agreed to by INPUT in the original contract, queries can only be accepted by INPUT from Mr. Santi Lahiri's office.
- All of the primary research data is available to Data General, including the user research, which was entered onto a personal computer file for analysis.
- For questions on the content of this report, contact Graham Kemp, Vice President, INPUT.





## II EXECUTIVE SUMMARY



## II EXECUTIVE SUMMARY

### A. OVERVIEW

- If the INPUT study sample is representative of the entire U.S. marketplace, the penetration of remote support services in the U.S. market is only 16% on average (ranging from zero for those vendors not offering it to 40% for Hewlett-Packard). There is a significant variance in vendor emphasis on RSS as a means of supporting the client base, and this same variance applies to users' opinions (from one group of users to another).
- Generally, users are receptive to RSS once they have had experience of it, but there is poor perception of the possibilities that RSS offers because of the uneven vendor promotion and support of remote support services. In Europe users are generally positive toward remote diagnostics but rate the service provided as average.
- There seems to be no doubt that RSS has a significant role to play in future service/support offerings. However, it is necessary for each vendor to establish a clear strategy for the integration of RSS with standard contract, depot, and T&M services. Adding RSS as an option does not appear to be a good idea, since the user interprets this as meaning that the vendor does not have a clear role assigned to RSS (otherwise, it would not be an option). The most successful vendor in implementing RSS--Hewlett-Packard--has yet to be totally unambiguous in its strategy with regard to RSS:



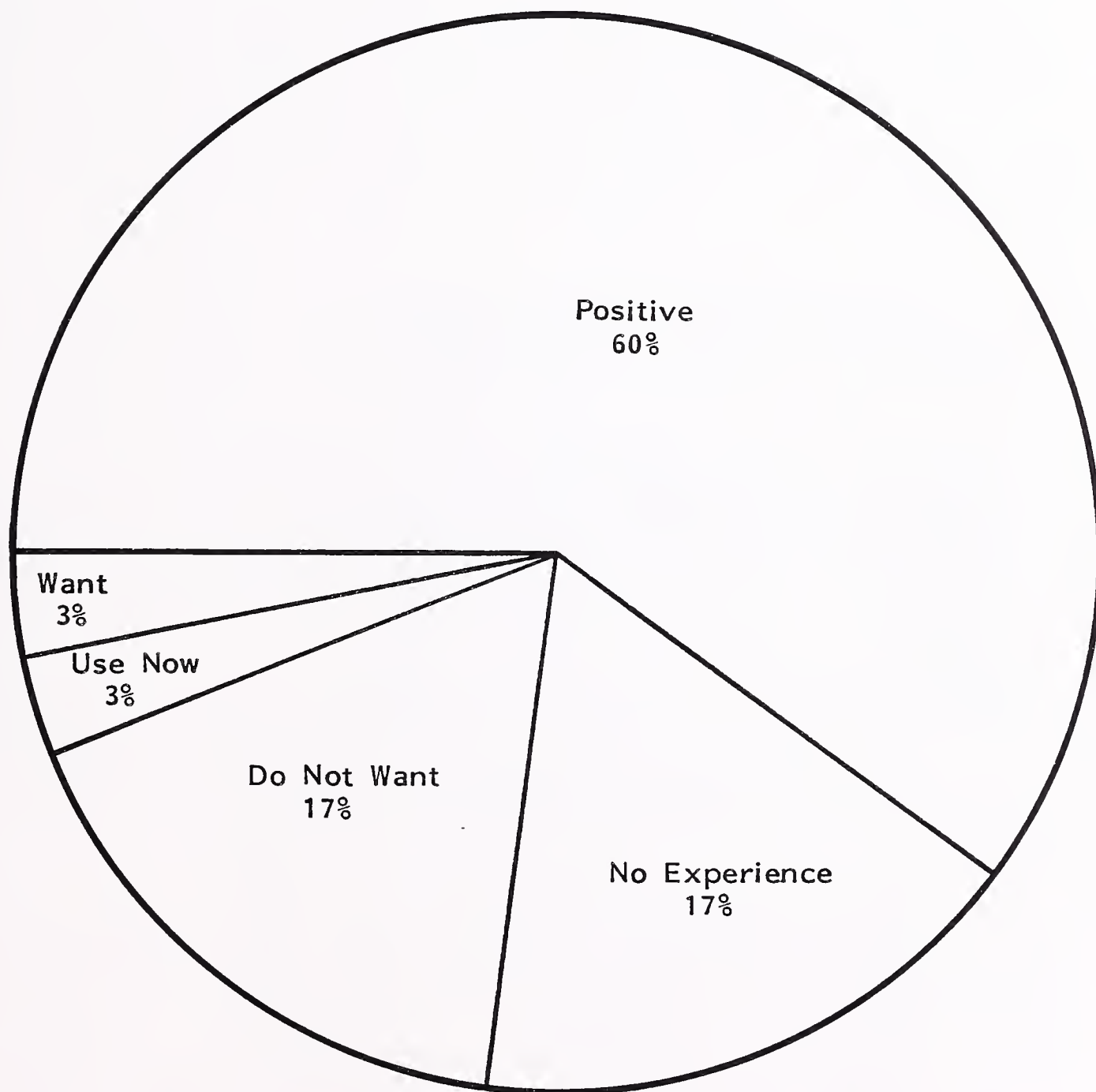
- Who pays for installation costs is still negotiable.
- Discounts are variable, not systematic.
- Product coverage is not clear to users.
- Product reliability coupled with preventative maintenance frequently eliminates the need for RSS.

## B. USERS' ATTITUDES TOWARD RSS

- The penetration rate of RSS in the U.S. is over five times (16%) that in Europe (3%), as shown in Exhibit II-1. This is a direct result of faster implementation of RSS in the U.S. and not, for example, of greater European user resistance to RSS. Most European users have a very positive attitude toward the concept, but only 3% use it currently. (An equal amount want it but are unable to obtain it.) This suggests that the European user is no different from the user in the U.S.—that is, generally receptive to the idea, providing it is part of the vendor's support strategy.
- Most users, both U.S. and European, are unaware of the cost of RSS. This is because RSS is an integral part of the basic maintenance agreement for the majority of users, so they are unable to determine if they are paying a premium (or benefiting from a discount). The corollary of that approach is that RSS integrated into regular maintenance cannot be sold to users on the basis of cost benefit.
- Again it appears that Data General would be best served to integrate RSS into its support strategy—that is, to integrate the cost into the regular maintenance charge and to provide the service as a standard part of the Data

EXHIBIT II-1

USERS ATTITUDES TOWARD REMOTE SUPPORT SERVICES IN EUROPE  
(Percent Mentions)



SOURCE: INPUT Survey in Western Europe, 1983

General service. This is preferable to making it an option (trying to create incentives for users to utilize it by disconnecting maintenance charges), which risks a poor penetration of the market.

- The European users' rating of RSS is the poorest of any of the services offered to them, as shown in Exhibit II-2, and vendors agree. On the whole, vendors tend to give themselves higher marks when evaluating their services than users do, but in this case everyone agrees that the quality of RSS service is only average.

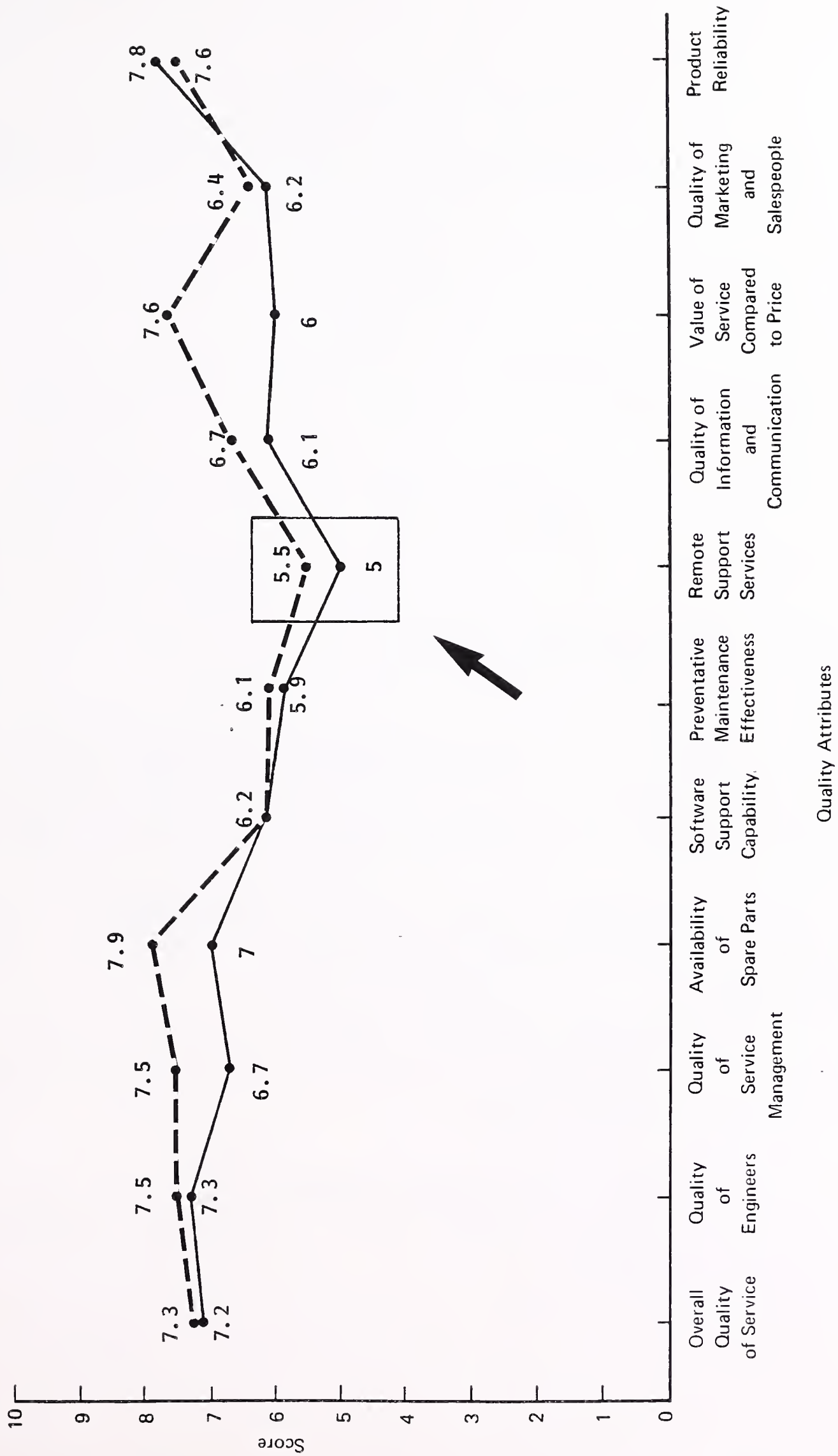
### C. FIELD ENGINEERS' ATTITUDES TOWARD RSS

- Vendors as a group were unable to give a convincing answer to this question both because they have not conducted a special study on RSS itself and because there are far more serious trends impacting the field engineer at present:
  - The general trend toward board/module swap out is reducing the need for in-field technical expertise; most of the highly specialized repair skills are now being concentrated in depots.
  - The integration of software support with hardware support in centralized remote support services centers has created many problems that are still to be overcome, including the creation of fault solution data bases, real-time networks for access, and interface of software specialists with hardware specialists; the reaction of the average FE to this environment is not sought.
  - FE productivity goals, whether measured as systems per FE, service revenue per FE, or other have put pressure on field engineers: very few companies are hiring, and those that are hiring are doing so at the



# EXHIBIT II-2

## EUROPEAN USER AND VENDOR RATINGS OF SERVICE QUALITY - ALL SYSTEMS



— = User Ratings of Vendors' Service Quality  
 --- = Vendor Ratings of Their Own Service Quality

1 = Poor 5 = Average 10 = Excellent

SOURCE: INPUT Survey

bottom end of the scale, not at the top. In this environment, keeping one's job (even though its content may be rapidly changing) is very important.

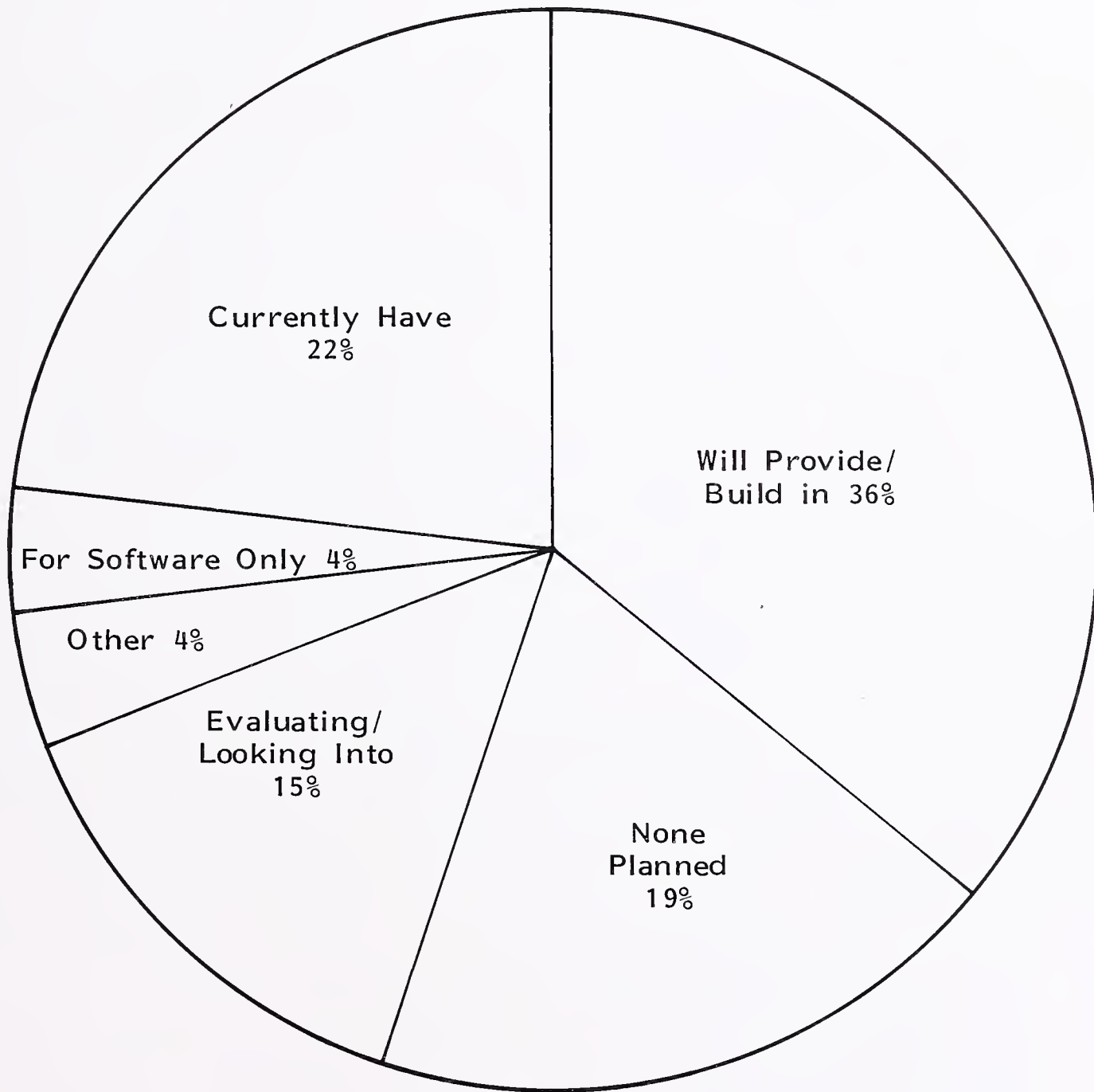
- Overall, it appears that the FE's reaction toward the impact that RSS has had on his job content has been muffled:
  - By the engineer himself, who does not wish to create waves at this time.
  - By the vendors, who have more important things to concentrate on at the moment.

#### D. VENDORS' PLANS FOR RSS

- There is a clear recognition on behalf of all major vendors (both U.S. and European) that RSS has a role to play in the menu of services and support needed in the latter part of the 1980s and beyond. This is evidenced by:
  - Renewed interest in the U.S. in the implementation of integrated hardware/software support centers.
  - Increased pressure by vendors who have been successful in implementing RSS (e.g., HP) to broaden the application of RSS to a wider group of products.
  - Nearly 75% of European vendors either have RSS already (22%), are evaluating it (15%), or plan to provide it (36%). Exhibit II-3 provides the detail.

EXHIBIT II-3

EUROPEAN VENDORS' STRATEGY FOR REMOTE SUPPORT SERVICES  
(Percent Mentions)



SOURCE: INPUT European Survey, 1983

- There is also a recognition on the part of vendors that in general remote support services are an additional cost, not a cost saver. This is true because although there is a substantial cost savings in eliminating unnecessary site visits (due to customer misuse or misunderstanding of software and hardware products), the cost of setting up, staffing, and maintaining a remote support services center is enormous.
- The realization of the size of additional cost incurred is leading some vendors to raise service charges. One example is MDS (whose customer satisfaction level is very high).



### III USER ANALYSIS



### III USER ANALYSIS

#### A. ANALYSIS BY GROUP

##### I. RSS SERVICES RECEIVED

###### a. RSS Market Penetration

- The survey found that remote support services are not, as yet, widely used in the marketplace. Although 1,400 interviews were attempted, INPUT was able to find, as shown in Exhibit III-1, just less than 230 users receiving RSS, or 16% market penetration.
- RSS services were almost nonexistent in the NCR and Burroughs user bases. Eliminating NCR and Burroughs from the integral totals still results in a market penetration of only 18%.
- RSS Market penetration was greatest among HP users, supporting the high reputation of HP product support throughout the computer industry.

###### b. Introduction of RSS into the Market

- Although several mainframe vendors have offered RSS services for nearly 10 years, the study showed that for the majority of users interviewed utilization of RSS has occurred much more recently.

# EXHIBIT III-1

## REMOTE SUPPORT SERVICES RECEIVED FROM VENDORS AS REPORTED BY USERS

VENDOR	NUMBER OF USERS INTERVIEWED	NUMBER RECEIVING RSS	PERCENT RECEIVING RSS
Amdahl	140	32	23%
IBM	160	34	21
DEC	185	30	17
Hewlett-Packard	80	32	40
Perkin-Elmer	180	26	14
Prime	195	30	15
Honeywell	90	30	33
Wang	230	13	6
NCR	70	0	0
Burroughs	85	2	2
Total	1,415	229	16%



- As shown in Exhibit III-2, over half (55%) of all users received RSS services within the last three years.

## 2. PRICING

### a. RSS Start-up Costs

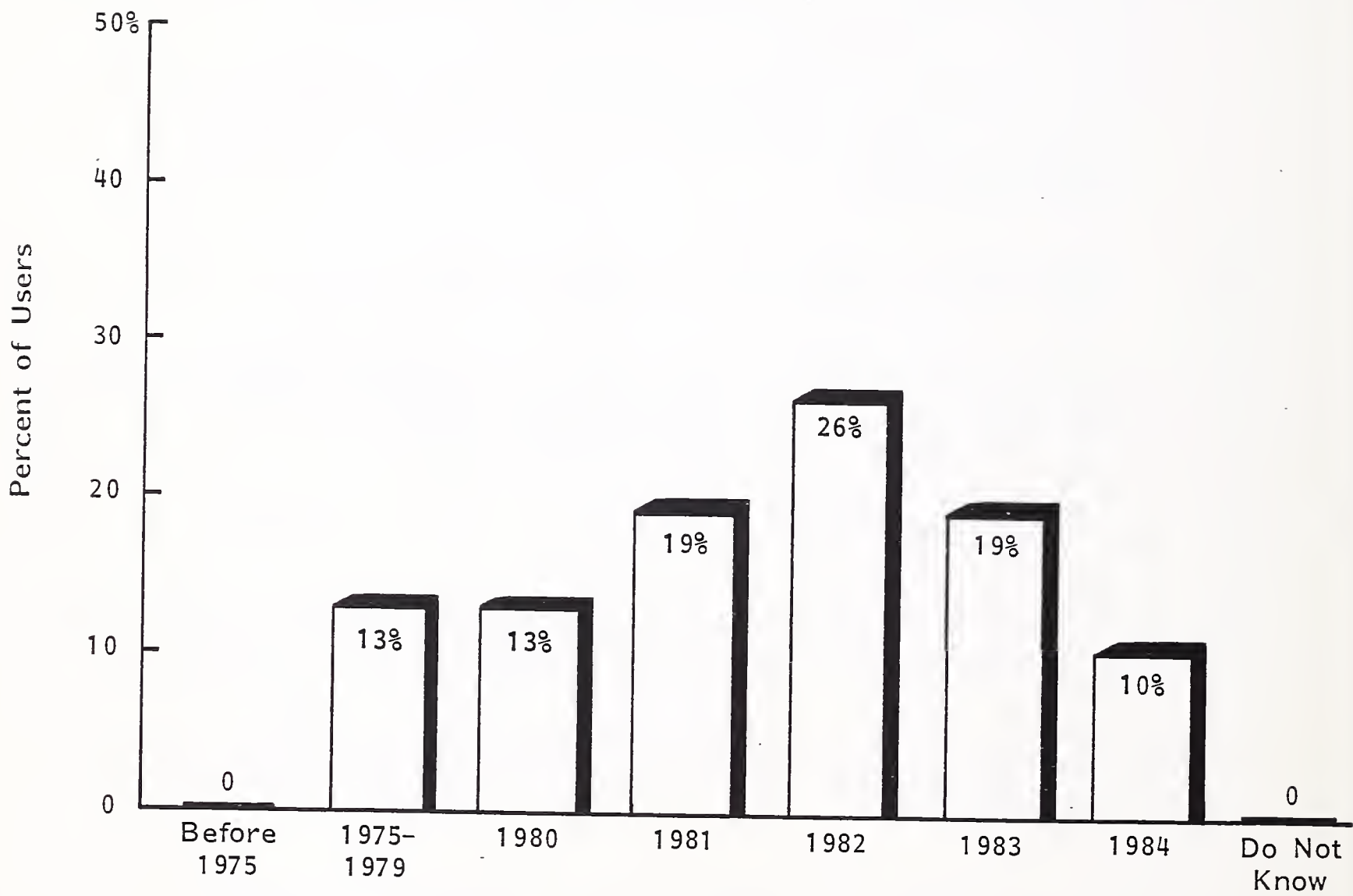
- The study showed that up to the present time, users wanting RSS services have the primary responsibility for the RSS start-up costs.
- The data, as shown in Exhibit III-3, indicate that except in special circumstances, the vendor holds the user responsible for the modem, the phone line, and the installation.
- Users are unclear if indeed there was a retrofit RSS component.
- Users indicated that more recent vendor product offerings include the modem, the retrofit package, if any, and hence the installation.

### b. RSS Service Costs

- The study showed that discounting, as an incentive to use RSS services, was not a widely used practice (as reported by users), as shown in Exhibit III-4:
  - Only 22% of all users surveyed indicated they were receiving a discount.
  - Less than half of those receiving were aware of its magnitude.
- Nearly half of users surveyed indicated that RSS was a part of their basic (negotiated or otherwise) maintenance agreement, and the discount, if any, could not be determined on a percentage basis.

EXHIBIT III-2

YEAR WHEN RSS BEGAN  
AS REPORTED BY ALL USERS



Sample Size 220

EXHIBIT III-3

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY ALL USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	66%	34%
Retrofit	8	13
Phone Line	77	23
Installation	70	30

Sample Size 208

EXHIBIT III-4

METHOD OF PAYMENT FOR RSS AS REPORTED BY  
ALL USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	31%	-	-	-	100%
Discount	22	14%	18%	4%	64
Do Not Know	47	-	-	-	100

Sample Size 199

- Nearly a third of the users surveyed believed they were paying a premium for their RSS service. The premium was either contained in the basic service agreement or could not be estimated by the users interviewed.
- INPUT concludes that poor RSS market penetration is partly due to lack of incentives given to users to subscribe to RSS.

### 3. RSS COVERAGE OF HARDWARE AND SOFTWARE

#### a. RSS Current Coverage

- Analysis showed that RSS services to users as a group were mostly limited to hardware and systems software combined coverage.
- The data, as shown in Exhibit III-5, indicate that although nearly 80% of all the users surveyed utilized the hardware and systems software RSS coverage, a number of users did not. These users either had never utilized the service or had only used the software hotline to solve vendor offer/sponsored software or applications software or application/operating system interface problem.
- There is some confusion in the users' minds concerning RSS support for vendor system micro code. Either the user just didn't know or was not aware of the hardware having micro code, or micro code accessibility.
- Less than half of the users as a group reported that RSS was used in any sense for preventative maintenance. PM is an area in which INPUT believes vendors can exploit RSS services.



EXHIBIT III-5

RSS SYSTEM COMPONENT COVERAGE  
AS REPORTED BY ALL USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	81%	19%	-
Systems Software	78	20	2%
Applications Software	40	59	1
Microcode	38	49	13
Preventative Maintenance	41	57	2

Sample Size 222

b. Extension of RSS

- The study indicated that a good deal of controversy among users still exists between RSS and on-site maintenance.
- Although 45% of users as a group, as shown in Exhibit III-6, supported general extension of RSS, nearly 40% wanted to return to on-site maintenance, either by itself or in conjunction with RSS.
- Less than 20% were interested in the status quo, indicating that the vendors have much to do in extending and improving RSS services, including customer education.

4. PERFORMANCE OF RSS

a. RSS Performance

- Users as a group report that RSS has resulted in improvement in vendor field service operations.
- The data, as shown in Exhibit III-7, indicate that at least 40% of users as a group reported improvement in major components of field service operations, and that just over half felt that the overall level of service had improved in a global sense. Since a number of users indicated that they did not as yet have the RSS services long enough to evaluate service improvement, the data shown could understate the true level of improvement.
- Some users reporting improvement were not able to quantify the degree. For example, 44% of the users reported improvement in service response time. Of those reporting improvement, 61% were able to indicate the degree. Although there were some testimonials as to the high effectiveness of RSS, the major portion of those reporting improvement indicated overall improvement of up to 25%, which INPUT considers significant.

EXHIBIT III-6

EXTENDING RSS TO OTHER AREAS AS REPORTED BY  
ALL USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	3%
Leave As Is	17
Improve Quality	3
Generally Extend	45
Return to On-Site Maintenance	39

Sample Size 227; Multiple Responses Possible

# EXHIBIT III-7

## RSS PERFORMANCE AS REPORTED BY ALL USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	50%
Service Response Time	44%	11%	24%	21%	15%
Service Repair Time	42	19	23	21	14
System Uptime	41	19	19	17	15
Level of Service Received	54	-	-	-	-

Sample Size 227

- INPUT concludes that when used effectively, RSS services significantly enhance field service operations.

b. User Satisfaction

- The survey found that, by and large, users like RSS vendor offerings. The data, as shown in Exhibit III-8, indicate that well over 3/4 of all users were satisfied with their RSS concept, and that responsiveness and the availability of home office expertise were the two most frequently cited RSS advantages.
- Objections to RSS, as shown in Exhibit III-9, were in the minority. Those users favoring on-site support missed the person-to-person communication.
- Selected users were dissatisfied with the lack of software support, particularly in the applications area.

5. USER NEEDS

a. RSS and the Purchase Decision

- The survey results, as shown in Exhibit III-10, indicated that users were equally divided on the question of how important RSS is as a factor in hardware selection.
- The result that approximately only a third of all users as a group felt that RSS was very important in the purchase decision is an indication that vendors need to do more in educating end users as to the value of RSS to system performance.



# EXHIBIT III-8

## RSS SERVICE COMPONENTS PARTICULARLY LIKED AS REPORTED BY ALL USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	76%
Timeliness	46
Support from Home Office Specialists	26
Convenience	9
Increased Efficiency	8
Ease of Diagnostics	6

Sample Size 191; Multiple Responses Possible, thus Percentages will not add.

EXHIBIT III-9

RSS SERVICE COMPONENTS DISLIKED  
AS REPORTED BY ALL USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	24%
Lack of Person-to-Person Communication	30
Lack of Software Support	18
Takes Too Long to Diagnose Problems	11
Do Not Keep User Informed	7

Sample Size 191; Multiple Responses Possible

EXHIBIT III-10

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY ALL USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	33%
Moderately Important (4-7)	36
Unimportant (1-3)	31

Sample Size 204

b. RSS and System Security

- The survey results indicate that security is important but not a major issue with respect to computer action of RSS with user in-house processors. The results, as shown in Exhibit III-11, indicate that less than a third of all users felt that security was a real problem.
- For those users believing that security is a problem, users elected to use passwords as the most popular method of handling a security issue. Those users most concerned initiated procedures to shift data files off-line when the vendor disconnected to the in house processor during RSS.
- INPUT believes that users are becoming more and more aware of the importance of program/data security and will require vendors to offer RSS services that include valid solutions to system security.

c. Future RSS Developments

- The survey results, as shown in Exhibit III-12, indicate that users as a group are most interested in having RSS services extended to peripherals such as disks, tapes, and printers, and to vendor-developed and -sponsored applications software, to meet their future needs.

C. ANALYSIS BY VENDOR

I. AMDAHL

a. RSS Introduction

- RSS has been an integral part of Amdahl's IBM plug-compatible offerings.

EXHIBIT III-11

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY ALL USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	31%
Passwords	31
Installed Security System	21
Move Data/Systems Off-Line	20
Built Own Security Program	10

Sample Size 223



EXHIBIT III-12

NEEDED FUTURE RSS OFFERINGS AS REPORTED BY  
ALL USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend to Applications Software	31%
Extend to Hardware (Peripherals)	27
Extend to All Areas	24
Extend to Systems Software	6
Others	12

Sample Size 198

- As shown in Exhibit III-13, over half of Amdahl users have used RSS services for three years, nearly 90% for at least two.
- Amdahl users have utilized RSS consistently longer than have all users as a group (see Exhibit III-2).

b. RSS Product Coverage

- The broad coverage of RSS services available for the Amdahl product line is indicated in Exhibit III-14.

c. RSS Start-up Costs

- Users consistently report that Amdahl pays for RSS start-up costs, as shown in Exhibit III-15.
  - This is especially true for more recent systems.
  - Users are uncertain as to the existence of retrofit.
- Amdahl user experience is consistently different from that of all users as a group (see Exhibit II-3).

d. RSS Service Costs

- Amdahl users report, as shown in Exhibit III-16, that the majority pay a premium for receiving RSS, the premium amount undetermined.
- Just over a quarter of the users believe that RSS, an integral part of basic maintenance agreement, is not distinguishable with respect to premium or discount.

EXHIBIT III-13

YEAR WHEN RSS BEGAN  
AS REPORTED BY AMDAHL USERS

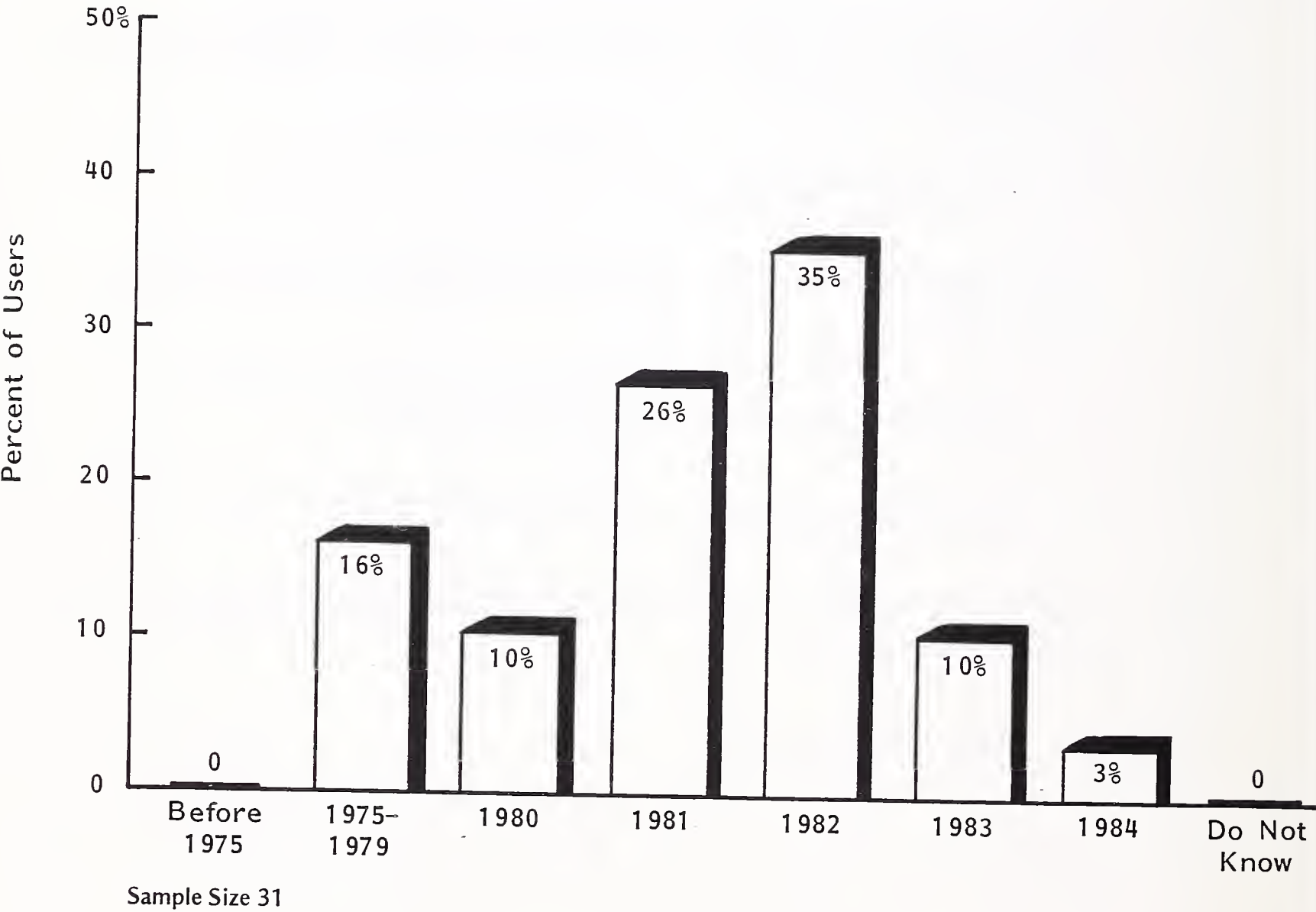


EXHIBIT III-14

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY AMDAHL USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
Amdahl 470 V62	13
Amdahl 470 V8	5
Amdahl 470 V7	4
Amdahl 5860	2
Amdahl 470 VC	1
Amdahl V701 V7B	1

Sample Size 26

EXHIBIT III-15

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY AMDAHL USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	33%	67%
Retrofit	3	10
Phone Line	27	73
Installation	23	73

Sample Size 30



# EXHIBIT III-16

## METHOD OF PAYMENT FOR RSS AS REPORTED BY AMDAHL USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	67%	-	-	-	100%
Discount	6	-	-	-	100
Other	27	-	-	-	100

Sample Size 30

- Except in unusual circumstances, perhaps in the case of GSA government contracts, Amdahl does not offer discounts as an inducement to use its RSS services.
- Over twice the number of Amdahl users feel they are paying a premium for RSS services than do all users as a group (see Exhibit III-4). Users see RSS as an addition to on-site field engineering services.

e. RSS Current Coverage

- The major portion of Amdahl users, as shown in Exhibit III-17, believe that Amdahl supplies RSS support for their hardware, systems software, and microcode.
- Being IBM plug-compatible, a quarter of the users believe systems software support is obtained through IBM.
- Although there is some confusion in users' minds, the majority believe Amdahl provides RSS support for the hardware microcode through downloading as necessary.
- Just over a third believe that Amdahl provides poor preventative maintenance through RSS, somewhat below the average for all users as a group (see Exhibit III-5). RSS service expansion, together with customer education, is clearly in order.

# EXHIBIT III-17

## RSS SYSTEM COMPONENT COVERAGE AS REPORTED BY AMDAHL USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	100%	-	-
Systems Software	72	28%	-
Applications Software	22	75	3%
Microcode	59	25	16
Preventative Maintenance	34	63	3

Sample Size 32

f. Extension of RSS

- Nearly a third of Amdahl users want either to return to on-site maintenance or to utilize a combination of on-site and RSS to maintain Amdahl mainframes, as shown in Exhibit III-18.
- Well over the majority of users support extending RSS, indicating widespread customer satisfaction with Amdahl RSS services.
- Fewer Amdahl users want to return to on-site maintenance than do all users as a group (see Exhibit III-6), another indicator of customer RSS satisfaction.

g. RSS Performance

- The majority of Amdahl users, as shown in Exhibit III-19, report improvement in three major field service components.
- The degree of improvement, together with the level of service received, are both consistently higher than the levels for users as a group (see Exhibit III-7), indicating a high degree of satisfaction with Amdahl RSS performance.

h. RSS Satisfaction

- The data presented in Exhibit III-20 indicate that users really like Amdahl RSS service components.
  - Over 90% of users responding report a combination of satisfaction with and enthusiasm for Amdahl RSS services.

EXHIBIT III-18

EXTENDING RSS TO OTHER AREAS AS REPORTED BY  
AMDAHL USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	6%
Leave As Is	3
Improve Quality	6
Generally Extend	63
Return to On-Site Maintenance	31

Sample Size 32; Multiple Responses Possible

EXHIBIT III-19

RSS PERFORMANCE AS REPORTED BY AMDAHL USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	50%
Service Response Time	63%	25%	20%	15%	25%
Service Repair Time	63	20	20	15	15
System Uptime	66	29	5	19	19
Level of Service Received	75	-	-	-	-

Sample Size 32



# EXHIBIT III-20

## RSS SERVICE COMPONENTS PARTICULARLY LIKED AS REPORTED BY AMDAHL USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	93%
Timeliness/Access	36
Support from Home Office Specialists	21
Increased Efficiency	18
Parts Availability Improved	7
Good Alternative to On-Site Engineers	4
Ease of Diagnostics	4
Gives Full Responsibility to Vendor	4
24 Hr./Day Availability	3
RSS as Backup	3

Sample Size 30; Multiple Responses Possible

- Responsiveness, support from home-office specialists, and increased efficiency are the favorable remarks most frequently mentioned by Amdahl users.
- Users like Amdahl RSS services considerably more than do all users as a group (see Exhibit III-8), another indication of customer satisfaction with Amdahl RSS services.
- Less than 10% of Amdahl users, as shown in Exhibit III-21, have something negative to say about Amdahl RSS services.
- Amdahl users have a much lower negative assessment of Amdahl RSS services than do all users as a group (see Exhibit III-9).

i. RSS and the Hardware Purchase Decision

- Only a quarter of Amdahl users, as shown in Exhibit III-22, report that RSS capability is unimportant in making mainframe purchase decisions.
- Having always had excellent RSS support capability, Amdahl users believe RSS is more important in the hardware purchase decision than do all users as a group (see Exhibit III-10).

j. RSS and System Security

- Security is not, as shown in Exhibit III-23, much of a problem when using RSS by Amdahl users.

EXHIBIT III-21

RSS SERVICE COMPONENTS DISLIKED  
AS REPORTED BY AMDAHL USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	7%
Field Engineer Is Not Visible	50
Takes Too Long to Fix Little Things	50

Sample Size 30; Multiple Responses Possible

EXHIBIT III-22

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY AMDAHL USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	28%
Moderately Important (4-7)	47
Unimportant (1-3)	25

Sample Size 32

EXHIBIT III-23

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY AMDAHL USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	16%
Security Package	40
Change Passwords Regularly	20
Established Multiple Security Levels	20
Do Not Use Rss When Operating System Is Up	20

Sample Size 32

- Vendor confidence, coupled with adequate security levels, is reflected in the fact that Amdahl users' level of concern is half that of all users as a group (see Exhibit III-11).

k. Future RSS Developments

- Users look to, as shown in Exhibit III-24, Amdahl's extending future RSS offerings in the areas of extending hardware coverage to peripherals and software coverage to applications software and new operating systems.

2. IBM

a. RSS Introduction

- The introduction of RSS with IBM users has until recently been a slow process. As shown in Exhibit III-25, well over 80% of the users have adopted RSS only within the last four years.
- RSS is being adopted by IBM users at a consistently slower rate than that for all users as a group (see Exhibit III-2).

b. RSS Product Coverage

- IBM RSS services are being more widely used, as shown in Exhibit III-26, for IBM systems used in the distributive environment. RSS support is available for all the IBM 360 and related product line, and for the more recent System 30 Series.



# EXHIBIT III-24

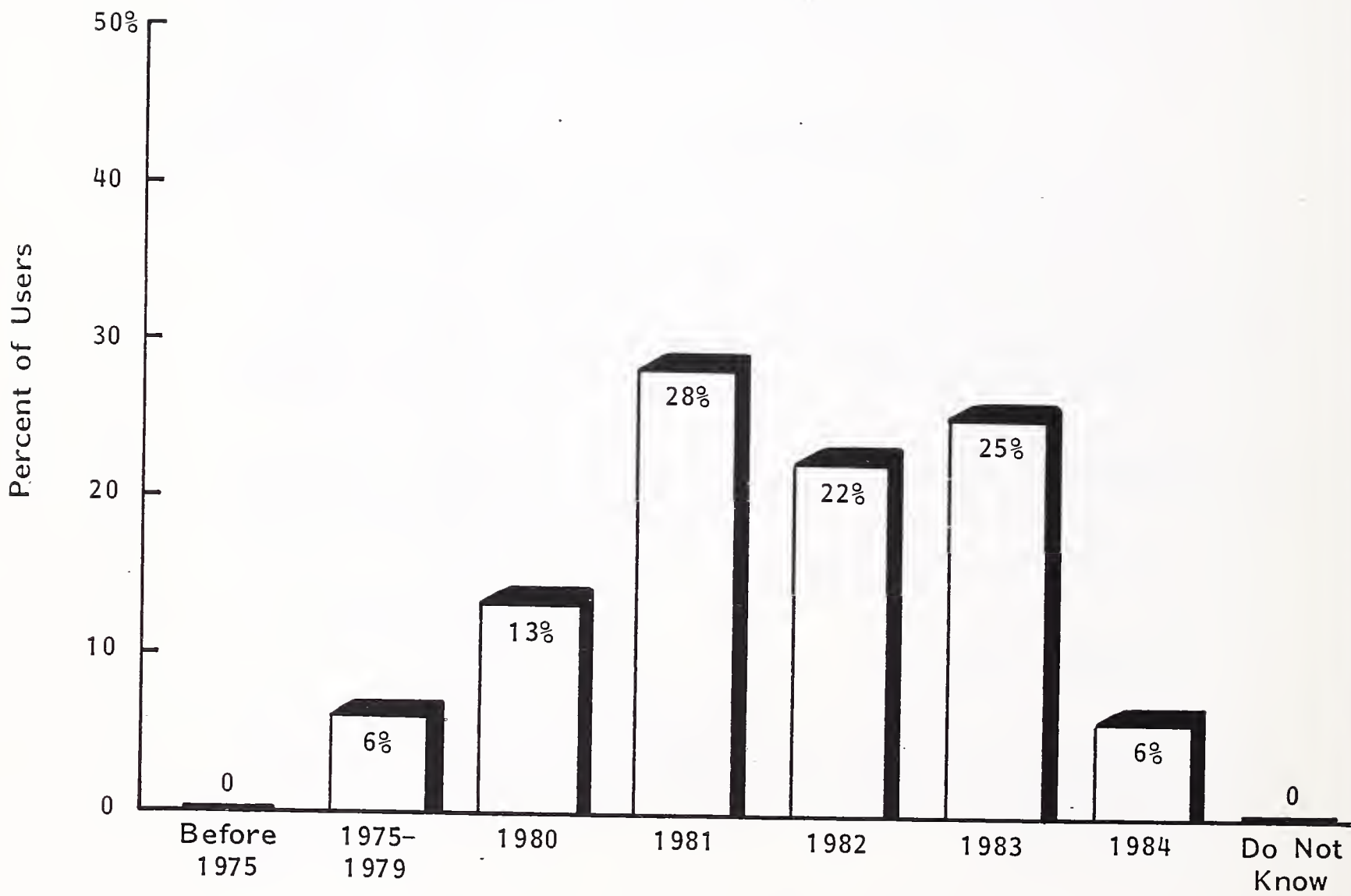
## NEEDED FUTURE RSS OFFERINGS AS REPORTED BY AMDAHL USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend Hardware Coverage (Peripherals)	33%
Extend to Applications Software and Operating Systems	33
Extend in All Areas	19
Are Happy with Service	7
Capacity Planning	4
Extend 24 Hr./Day, 7 Days/Week	4

Sample Size 27

EXHIBIT III-25

YEAR WHEN RSS BEGAN  
AS REPORTED BY IBM USERS



Sample Size 32

EXHIBIT III-26

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY IBM USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
IBM 4341	7
IBM 8100	4
IBM 3884/3	2
IBM 370	2
IBM 3080	2
IBM 4331	2
IBM 3033	1
IBM System 38	1

c. RSS Start-up Costs

- Well over three quarters of IBM users, as shown in Exhibit III-27, report being responsible for installation of the initial RSS components. For large accounts and under special circumstances, IBM pays for establishing the RSS service.
- Few users are aware of a retrofit package, if any, in relation to RSS.
- IBM users pay for initial RSS start-up costs in consistently greater proportions than do all users as a group (see Exhibit III-3).

d. RSS Service Costs

- Except in selected circumstances, IBM does not use discounting as a pricing mechanism to induce users to avail themselves of RSS services.
- As shown in Exhibit III-28, half of IBM users report paying a premium, of undetermined portion, as part of their basic service agreement, whereas another 40% report RSS is part of their basic agreement but cannot determine whether they are receiving a premium or a discount for the RSS service.
- Considerably more IBM users report paying a premium, and fewer receive a discount for RSS services than do all users as a group (see Exhibit III-4).

e. RSS Current Coverage

- IBM RSS services are currently targeted toward hardware, systems software, and microcode, and, to an extent, preventative maintenance, as shown in Exhibit III-29.
- Low utilization of IBM hardware RSS services as compared to all users as a group (see Exhibit III-5) is related to third-party maintenance agreements and self-maintenance.

EXHIBIT III-27

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY IBM USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	78%	22%
Retrofit	6	6
Phone Line	81	19
Installation	81	19

Sample Size 32

# EXHIBIT III-28

## METHOD OF PAYMENT FOR RSS AS REPORTED BY IBM USERS

METHOD	PORTION OF USERS RESPONDING				
	RE- CEIVING	1-5%	6-10%	>10%	OTHER
Premium	50%	-	-	-	100%
DISCOUNT	6	-	-	50%	50
Other	44	-	-	-	100

Sample Size 32



# EXHIBIT III-29

## RSS SYSTEM COMPONENT COVERAGE AS REPORTED BY IBM USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	66%	31%	3%
Systems Software	78	19	3
Applications Software	25	72	3
Microcode	53	41	6
Preventative Maintenance	41	53	6

Sample Size 32

- IBM offers RSS services for applications software developed and offered by IBM. The low utilization of this RSS component by IBM users as compared to all users as a group (see Exhibit III-5) indicates that IBM needs to increase the effectiveness of RSS applications software coverage.

f. Extension of RSS

- Having been raised in an on-site maintenance environment, IBM users appear reluctant to adapt to RSS as a maintenance mode.
- Nearly half of IBM users, as shown in Exhibit III-30, want to return to on-site maintenance or to utilize a combination of on-site and RSS services.
- The portion of IBM users wanting to return to on-site maintenance is considerably higher than for all users as a group (see Exhibit III-6), giving further evidence of IBM's need to sell RSS to its users.

g. RSS Performance

- Just over a third of IBM users, as shown in Exhibit III-31, report improvement in maintenance components as a result of utilizing RSS.
- The portion of IBM users reporting improvement is consistently less than for all users as a group (see Exhibit III-7), giving further indication of the need for IBM to increase RSS service effectiveness.

h. RSS Satisfaction

- For those users responding, as shown in Exhibit III-32, over 70% generally like the RSS services they receive.

# EXHIBIT III-30

## EXTENDING RSS TO OTHER AREAS AS REPORTED BY IBM USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	-
Leave As Is	26%
Improve Quality	-
Generally Extend	35
Return to On-Site Maintenance	47

Sample Size 34; Multiple Response Possible

EXHIBIT III-31

RSS PERFORMANCE AS REPORTED BY IBM USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	50%
Service Response Time	38%	15%	15%	23%	8%
Service Repair Time	38	15	15	8	8
System Uptime	32	9	18	18	-
Level of Service Received	38	-	-	-	-

Sample Size 34

# EXHIBIT III-32

## RSS SERVICE COMPONENTS PARTICULARLY LIKED AS REPORTED BY IBM USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	71%
Timeliness	45
Convenience	15
Coordinated Effort	10
Support from RSS Technical Specialists	10
Alternative to On Site	10
Available 24 Hr./Day, 7 Days/Week	5
RSS Has Always Worked	5

Sample Size 28; Multiple Responses Possible

- The portion of IBM users satisfied with RSS is somewhat less than for all users as a group (see Exhibit III-8). This is particularly so with respect to support from maintenance-center technical specialists.
- Fully half of IBM users who are not satisfied with the RSS services, as shown in Exhibit III-33, cited lack of personal contact/communications as a basis for their dissatisfaction. It appears that improved RSS/user service communications interface could greatly improve IBM's RSS services.

i. RSS and the Hardware Purchase Decision

- Nearly 40% of the IBM users, as shown in Exhibit III-34, felt that RSS capability was not important in their hardware purchase decision. This is probably due to IBM's reputation for on-site maintenance (and the effectiveness of on-site maintenance as compared to IBM's current RSS service offering).
- The portion of IBM users who felt that RSS is unimportant in relation to the hardware purchase decision is considerably greater than for users as a group (see Exhibit III-10), giving further support to the above analysis.

j. RSS and System Security

- Security is not currently an issue for IBM users.
- Only 21% of IBM users felt security to be a real problem, as shown in Exhibit III-35. This is considerably below all users as a group (see Exhibit III-11).
- The data suggest that the users have confidence in IBM's integrity and, where necessary, have installed adequate security controls for use in conjunction with RSS services.



EXHIBIT III-33

RSS SERVICE COMPONENTS DISLIKED  
AS REPORTED BY IBM USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	29%
No Personal Contact/Communication	50
Field Service People Less Qualified	13
Time Lost in Slow Transmission	13
Security a Problem Using RSS	12
Slows Down Repair	12

EXHIBIT III-34

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY IBM USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	38%
Moderately Important (4-7)	24
Unimportant (1-3)	38

Sample Size 32

EXHIBIT III-35

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY IBM USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	21%
Passwords	43
Security System Installed	29
Other	14

Sample Size 34

k. Future RSS Developments

- As shown in Exhibit III-36, IBM users were most interested in future RSS offerings related to applications software and to hardware peripherals including communications.
- IBM users' needs for future RSS offerings were consistent with respect to relative importance as those for all uses as a group (see Exhibit III-12).

3. DEC

a. RSS Introduction

- DEC has been one of the more successful vendors in the introduction of RSS to its users.
- As shown in Exhibit III-37, 60% of the users surveyed utilized DEC's RSS service for more than three years.
- The portion of DEC users on RSS for more than three years is considerably higher than for all users as a group (see Exhibit III-2).

b. RSS Product Coverage

- RSS coverage for the DEC product line is clearly shown among the users interviewed, as shown in Exhibit III-38.
- Except for very large systems, DEC users are accustomed to calling for field service and apparently welcome the additional effectiveness provided by RSS.

c. RSS Start-up Costs

- The burden of RSS start-up costs rests primarily with DEC users.

# EXHIBIT III-36

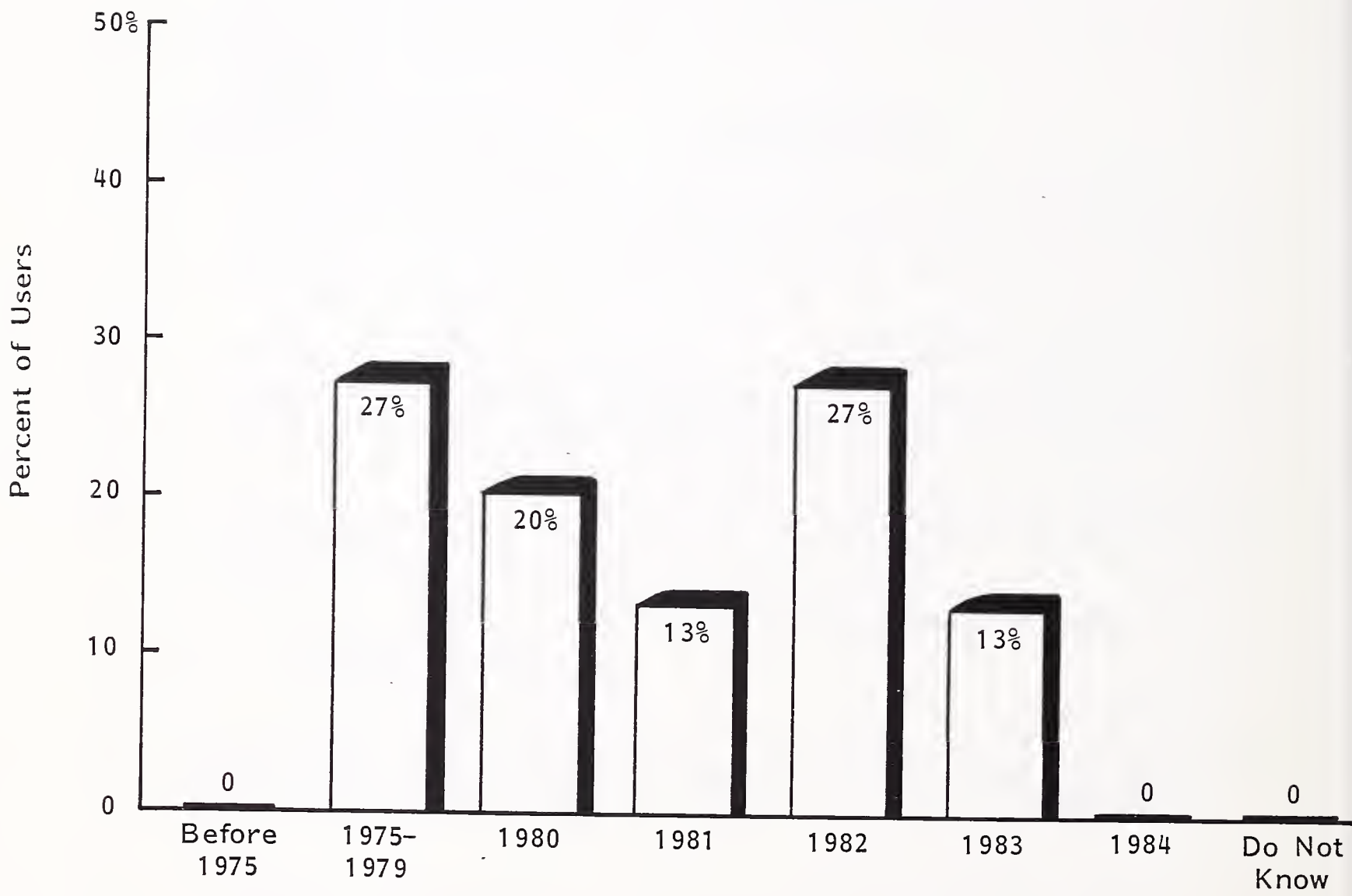
## NEEDED FUTURE RSS OFFERINGS AS REPORTED BY IBM USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend to Applications Software	32%
Extend in All Areas	28
Extend Hardware Coverage (Peripherals)	20
Better User Manuals	4
Extend to Communications Peripherals	8
Fine As Is	8

Sample Size 25

EXHIBIT III-37

YEAR WHEN RSS BEGAN  
AS REPORTED BY DEC USERS



Sample Size 30



EXHIBIT III-38

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY DEC USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
PDP 11/70	15
PDP 11/44	5
VAX/750	5
PDP 11/35	1
PDP 11/80	1
DEC 10	1

- DEC users, as shown in Exhibit III-39, have primary responsibility for the phone line and for installing (a simple matter) the RSS service. Retrofit, if any, is an ambiguous issue.
- DEC is including the modem on more recent products, accounting for the equal division for providing the modem between user and vendor.
- Except for the modem, DEC users have somewhat more responsibility for RSS start-up costs than do all users as a group (see Exhibit III-3).

d. RSS Service Costs

- Evidently DEC users believe their maintenance costs are less as a result of RSS services.
- As shown in Exhibit III-40, over 40% of DEC users believe they receive a discount, of unknown quantity, as part of their basic service agreement. Another 40% cannot tell from their basic service agreement, having always had RSS as part of their maintenance service.
- The portion of DEC users reporting receiving discounts is double that of all users as a group (see Exhibit III-4), evidencing DEC's ability to use discounting to sell RSS services.

e. RSS Current Coverage

- Virtually all of DEC users, as shown in Exhibit III-41, use RSS for hardware maintenance support.
- DEC is weakest in providing RSS support for applications software. The portion of DEC users having RSS coverage for any applications software is less than half that for all users as a group (see Exhibit III-5).

# EXHIBIT III-39

## RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS AS REPORTED BY DEC USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	50%	50%
Retrofit	11	29
Phone Line	93	7
Installation	71	29

Sample Size 28

EXHIBIT III-40

METHOD OF PAYMENT FOR RSS AS REPORTED BY  
DEC USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	21%	-	-	-	100%
Discount	42	-	-	-	100
Other	37	-	-	-	100

Sample Size 24

EXHIBIT III-41

RSS SYSTEM COMPONENT COVERAGE  
AS REPORTED BY DEC USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	97%	3%	-
Systems Software	53	47	-
Applications Software	17	83	-
Microcode	27	57	6%
Preventative Maintenance	43	57	-

Sample Size 30

- Although the portion of DEC users believing that RSS coverage includes preventative maintenance is slightly above that for all users as a group, still less than half believe such coverage is provided. This is an area where either customer education or RSS coverage extension is in order.

f. Extension of RSS

- As shown in Exhibit III-42, 60% of DEC users are in favor of extending DEC's RSS services to all applicable areas. This portion is considerably higher than for all users as a group (see Exhibit III-6).
- The portion of end users either wanting to return to on-site maintenance or to utilize a combination of on-site and RSS services is 40%. This portion is on a par with all users as a group and indicates that perhaps for larger VAX systems, such a combination is in order.

g. RSS Performance

- The majority of DEC users believe RSS has improved major components of the field maintenance.
- As shown in Exhibit III-43, 70% of DEC users believe the level of service has improved. Well over half of users citing improvement indicate improvement up to 25% for the three major field service components.
- DEC users rate RSS performance consistently above that of all users as a group (see Exhibit III-7).

h. RSS Satisfaction

- DEC users are generally very satisfied with RSS services as currently provided.



# EXHIBIT III-42

## EXTENDING RSS TO OTHER AREAS AS REPORTED BY DEC USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	7%
Leave As Is	13
Improve Quality	3
Generally Extend	60
Return to On-Site Maintenance	40

Sample Size 30; Mutiple Response Possible

EXHIBIT III-43

RSS PERFORMANCE AS REPORTED BY DEC USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	>50%
Service Response Time	53%	-	50%	13%	-
Service Repair Time	53	6%	44	13	-
System Uptime	43	23	46	8	-
Level of Service Received	70	-	-	-	-

Sample Size 30

- As shown in Exhibit III-44, 80% of DEC users like major components of DEC's RSS service. Responsiveness, ease of use, and support from maintenance-center technical specialists are popular components of DEC's RSS service.
- The portion of DEC users liking DEC's RSS services is somewhat above the average for all users as a group (see Exhibit III-8).
- These service components considered unsatisfactory by DEC users, as shown in Exhibit III-45, are on a par with those of all users as a group (see Exhibit III-9).

i. RSS and the Hardware Purchase Decision

- DEC mini and megamini computer users appear more dependent on RSS as part of their maintenance service.
- Just over 20% of DEC users, as shown in Exhibit III-46, consider RSS capability as unimportant in making the hardware purchase decision.
- The portion of DEC users considering RSS capability as very important in the hardware purchase decision is considerably above that portion for all users as a group (see Exhibit III-10), giving further indication of the need for RSS in the mini/megamini maintenance environment.

j. RSS and System Security

- Just over 30% of DEC users, as shown in Exhibit III-47, report that security is an issue. This portion is on a par with that of all users as a group (see Exhibit III-11).
- The operational environment for many of DEC's minicomputers offers the evident solution of not running the in-house applications during RSS.

EXHIBIT III-44

RSS SERVICE COMPONENTS PARTICULARLY LIKED  
AS REPORTED BY DEC USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	80%
Timeliness	42
Convenience	17
Support from Home Office RSS Specialists	17
Ease of Diagnostics	8
Available 24 Hr./Day, 7 Days/Week	8
Cost Savings	4
Very Powerful	4

Sample Size 30; Multiple Responses Possible

# EXHIBIT III-45

## RSS SERVICE COMPONENTS DISLIKED AS REPORTED BY DEC USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	20%
Lacks Person-to-Person Contact	33
Does Not Help - Wastes Time	17
Not Really Necessary	17
Cannot Diagnose Problems Efficiently	17
Is Not Being Used Effectively	16

Sample Size 30; Multiple Responses Possible

EXHIBIT III-46

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY DEC USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	39%
Moderately Important (4-7)	39
Unimportant (1-3)	22

Sample Size 28



EXHIBIT III-47

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY DEC USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	31%
Do Not Use It While Running Program	56
Specialized Program to Gain Access	22
Trust Vendor	11
Passwords	11

Sample Size 29

k. Future RSS Developments

- DEC users' needs for future RSS offerings center around RSS coverage for peripherals and software.
- DEC users' future needs are on a par with those for all users as a group, as shown in Exhibit III-48.

4. HEWLETT-PACKARD

a. RSS Introduction

- Extension of HP RSS services to the user environment appears to be a recent and a concentrated occurrence.
- As shown in Exhibit III-49, 75% of HP users interviewed utilized HP RSS services for less than three years. This finding, coupled with the high concentration (40%) of total users interviewed receiving RSS services (see Exhibit III-1), indicates that HP has embarked on a serious effort to install RSS for their product line.
- The portion of HP users on RSS services within the past three years is considerably greater than for all users as a group (see Exhibit III-2).

b. RSS Product Coverage

- From the data presented in Exhibit III-50, it appears that HP has concentrated its RSS services, at least initially, on the HP 3000 product line.

# EXHIBIT III-48

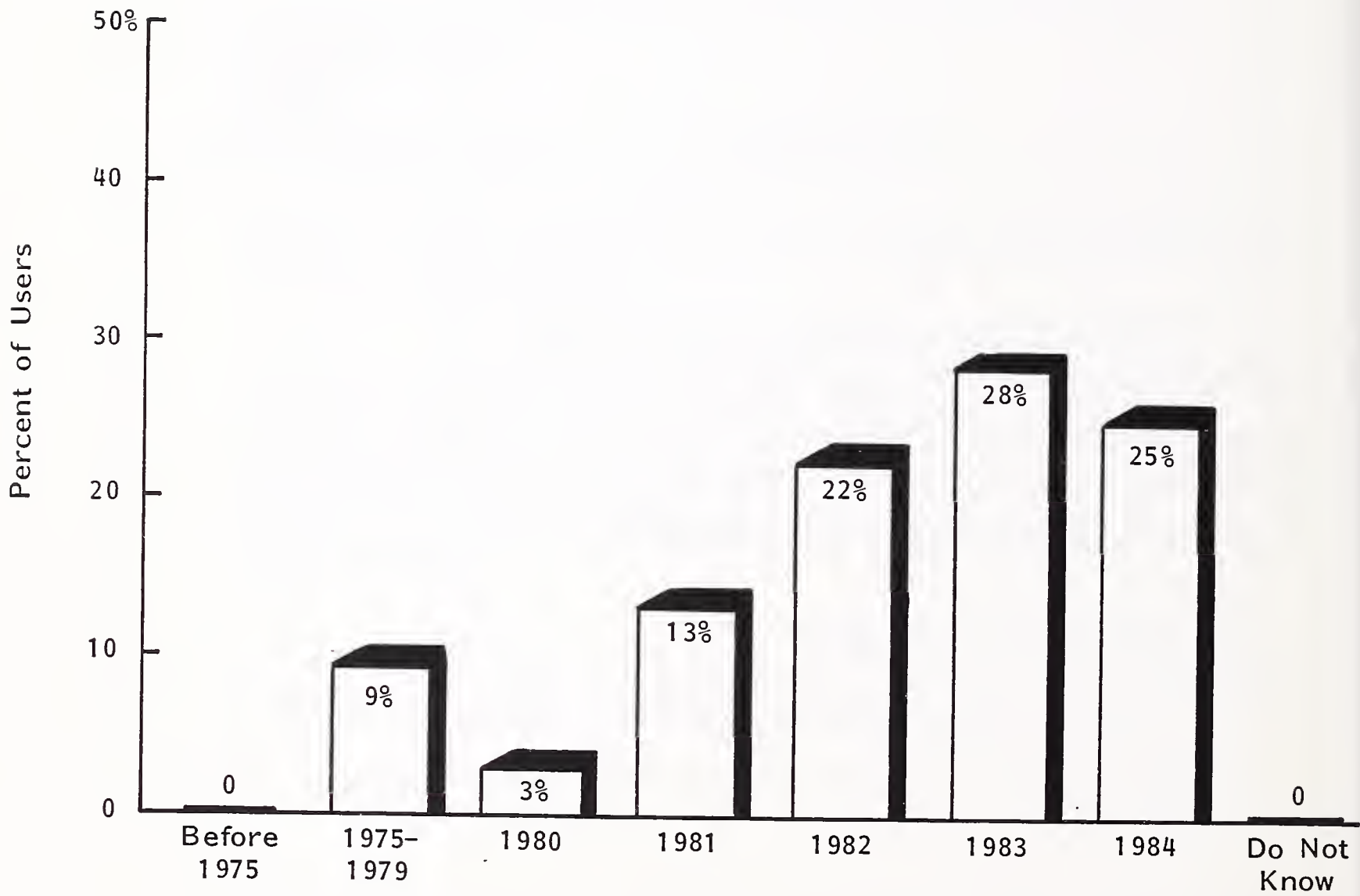
## NEEDED FUTURE RSS OFFERINGS AS REPORTED BY DEC USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend in All Area	31%
Extend Hardware Coverage (Peripherals)	32
Extend to Software	21
Extend Diagnostics, Error Messages	8
Improve User Feedback	4
Satisfied with Current Service	4

Sample Size 26

EXHIBIT II-49

YEAR WHEN RSS BEGAN  
AS REPORTED BY HEWLETT-PACKARD USERS



Sample Size 32

EXHIBIT III-50

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY HEWLETT-PACKARD USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
Hewlett-Packard 3000	26
Hewlett-Packard 300	2
Hewlett-Packard Series 3	2
Hewlett-Packard 64	1

c. Start-up Costs

- Typical of the mini/megamini product market, HP users have prime responsibility for the start-up costs in relation to RSS services.
- Well over three-quarters of HP users currently pay for the RSS start-up major components. Again responsibility for the retrofit packages, if any, is ambiguous.
- The portion of HP users paying for initial start-up costs is consistently greater than that for all users as a group, as shown in Exhibit III-51.

d. RSS Service Costs

- Discounting is a major method utilized by HP for inducing users to subscribe to RSS services.
- As shown in Exhibit III-52, over 60% of users interviewed indicated that they received a discount for subscribing to RSS services. Nearly half of those subscribing were aware of the portion of the discount represented, whereas the others indicated the discount was included in the basic maintenance agreement.
- The portion of HP users reporting receiving discounts is almost three times that for all users as a group (see Exhibit III-4), giving support to the high penetration of HP RSS services among users (see Exhibit III-1).

e. RSS Current Coverage

- The major portion of HP users, as shown in Exhibit III-53, utilized RSS services for hardware, systems software, and applications software. Self-maintenance arrangements account for some users not availing themselves of HP RSS hardware coverage.

EXHIBIT III-51

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY HEWLETT-PACKARD USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	75%	25%
Retrofit	6	0
Phone Line	97	3
Installation	91	9

Sample Size 32



EXHIBIT III-52

METHOD OF PAYMENT FOR RSS AS REPORTED BY  
HEWLETT-PACKARD USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	-	-	-	-	-
Discount	63%	26%	11%	5%	58%
Other	37	-	-	-	100

Sample Size 30

EXHIBIT III-53

RSS SYSTEM COMPONENT COVERAGE  
AS REPORTED BY HEWLETT-PACKARD USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	78%	22%	-
Systems Software	94	3	3%
Applications Software	69	31	-
Microcode	28	50	22
Preventative Maintenance	34	50	16

Sample Size 32

- HP RSS services with respect to microcode are uncertain. The low portion of users believing HP provides RSS preventative maintenance services indicates an area where HP can expand a user awareness and RSS services as necessary.
- The portion of HP users subscribing to RSS software services is significantly greater than for all users as a group (see Exhibit III-5). Hewlett-Packard has been particularly effective in supporting its manufacturing applications software for added user base.

f. Extension of RSS

- HP users are evidently pleased with HP's RSS services, as shown in Exhibit III-54.
- Only 20% of the users would like to shift to on-site maintenance. This portion is significantly less than for all users as a group (see Exhibit III-6).
- A major portion of HP users are content to leave RSS as it is, whereas some 40% are in support of generally extending its capabilities. In combination, these two groups of HP users are in significantly greater proportion than for all users as a group (see Exhibit III-6).

g. RSS Performance

- Many HP users report that HP reliability is so high, and preventative maintenance so good, that they rarely use HP's RSS services.
- The above reasons account for the findings, as shown in Exhibit III-55, that, in an overall sense, less than 40% of HP users report improvement in major components of field service. Again over 40% of those reporting improvement indicate improvement of up to 25% in the respective field service components.

# EXHIBIT III-54

## EXTENDING RSS TO OTHER AREAS AS REPORTED BY HEWLETT-PACKARD USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	3%
Leave As Is	32
Improve Quality	3
Generally Extend	42
Return to On-Site Maintenance	20

Sample Size 32; Multiple Responses Possible

EXHIBIT III-55

RSS PERFORMANCE AS REPORTED BY HEWLETT-PACKARD USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	50%
Service Response Time	41%	15%	54%	15%	8%
Service Repair Time	22	-	43	14	29
System Uptime	28	11	33	11	33
Level of Service Received	44	-	-	-	-

Sample Size 32

- The portion of users reporting improvement is consistently less than for all users as a group (see Exhibit III-7). INPUT attributes this to the existing high quality of HP's product reliability and field service.

h. RSS Satisfaction

- HP users are by and large pleased with HP's RSS services.
- Nearly 80% of HP users, as shown in Exhibit III-56, like major components of HP's RSS service. This portion is consistent with that for all users as a group (see Exhibit III-8).
- Selected users, as shown in Exhibit III-57, fault HP RSS services in the area of software support, particularly in applications where the software product has not been developed within HP.

i. RSS and the Hardware Purchase Decision

- Over 40% of HP users, as shown in Exhibit III-58, believe that the RSS capability is unimportant in the hardware purchase decision. This portion is significantly higher than for all users as a group (see Exhibit III-10).
- It is INPUT's interpretation that HP's high product reliability and excellent field service reputation decreases the need in the users' minds for RSS capability in making the hardware purchase decision.

j. RSS and System Security

- Security is an issue among HP users.
- As shown in Exhibit III-59, half of the users interviewed reported that security was a real problem. This portion is significantly greater than for all users as a group (see Exhibit III-11).

EXHIBIT III-56

RSS SERVICE COMPONENTS PARTICULARLY LIKED  
AS REPORTED BY HEWLETT-PACKARD USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	78%
Timeliness	43
Saves Time/Cost	28
Excellent for Remote Locations	22
Ease of Diagnostics	7

Sample Size 18; Multiple Responses Possible



EXHIBIT III-57

RSS SERVICE COMPONENTS DISLIKED  
AS REPORTED BY HEWLETT-PACKARD USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	22%
Lack of Software Support	75
Lack of Control to Get Job Done	25

EHXIBIT III-58

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY HEWLETT-PACKARD USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	29%
Moderately Important (4-7)	29
Unimportant (1-3)	42

Sample Size 21

# EXHIBIT III-59

## SECURITY AS AN ISSUE WHEN USING RSS AS REPORTED BY HEWLETT-PACKARD USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	50%
Passwords  Password Security through Data Communications  Built Security System  Software Package  Special Logging Procedures  Still a Problem	38  19  19  12  6  6

Sample Size 32

- Users have responded to the security problem through a variety of security methods, one of the most important being the use of passwords.
- Evidently in the applicational areas where HP products are used, HP must develop the ability to handle the security adequately through its RSS service offerings.

k. Future RSS Developments

- HP users' requirements for future RSS offerings are shown in Exhibit III-60. They are highly interested in RSS services for applications software and extending RSS hardware diagnostics to peripherals.

5. PERKIN-ELMER

a. RSS Introduction

- Utilization of RSS services by Perkin-Elmer users is a recent occurrence.
- Nearly 65% of users interviewed, as shown in Exhibit III-61, have used RSS services for less than three years.
- The portion of PE users utilizing RSS services for less than three years is considerably more than for all users as a group (see Exhibit III-2).
- The above data, together with the 14% penetration rate for PE RSS services, as shown in Exhibit III-1, indicate that PE is still getting its act together with respect to RSS.

# EXHIBIT III-60

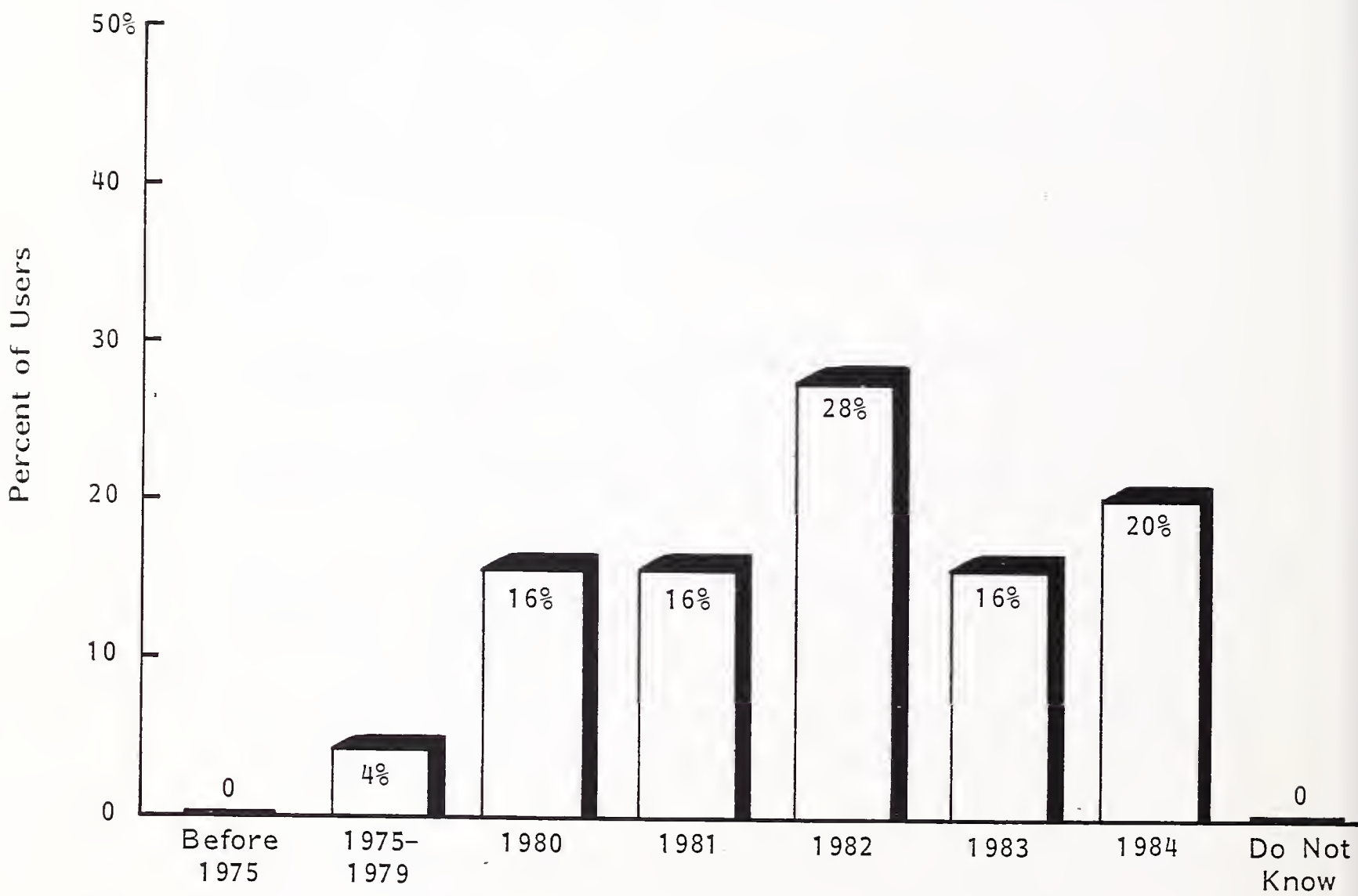
## NEEDED FUTURE RSS OFFERINGS AS REPORTED BY HEWLETT-PACKARD USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend to Applications Software	45%
Extend Hardware Coverage (Peripherals)	29
Extend in All Areas	20
Extend Product Coverage (PC, etc.)	6

Sample Size 31

EXHIBIT III-61

YEAR WHEN RSS BEGAN  
AS REPORTED BY PERKIN-ELMER USERS



Sample Size 25

b. RSS Product Coverage

- From the data, as shown in Exhibit III-62, it would appear that PE is offering services primarily for its Series 3000 megamini computers.

c. RSS Start-up Costs

- Perkin-Elmer is more flexible with respect to initial installation of RSS service.
- As shown in Exhibit III-63, data indicate that just over half of all users pay for the initial RSS components. Retrofit, if any, appears to be the vendor's responsibility.
- The portion of PE users who pay for initial installation is significantly less than for all users as a group (see Exhibit III-3), indicating that PE offers at least installation incentives for their RSS service.

d. RSS Service Costs

- PE uses discounting to some extent to induce users to subscribe to RSS services.
- As shown in Exhibit III-64, data indicate that over 20% of responding users receive discounts either measurable to or integrated with their basic maintenance agreement. Apparently PE could increase market penetration through at least greater selective use of discounting to induce users to subscribe to the RSS approach.
- PE users' understanding of the method for RSS payment is in close agreement with that for all users as a group (see Exhibit III-4), indicating that PE might use service differentiation to increase user interest in RSS services.



EXHIBIT III-62

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY PERKIN-ELMER USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
Perkin-Elmer 3220	7
Perkin-Elmer 3230	3
Perkin-Elmer 3250	2
Perkin-Elmer 3240	2
Perkin-Elmer 3083	1
Perkin-Elmer 3205	1

EXHIBIT III-63

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY PERKIN-ELMER USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	52%	48%
Retrofit	0	35
Phone Line	56	30
Installation	48	52

Sample Size 23

EXHIBIT III-64

METHOD OF PAYMENT FOR RSS AS REPORTED BY  
PERKIN-ELMER USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	23%	-	-	-	100%
Discount	23	-	40%	-	60
Other	54	-	-	-	100

Sample Size 22

e. RSS Current Coverage

- The major portion of PE users, as shown in Exhibit III-65, use RSS services primarily for hardware and systems software.
  - PE users are more aware of, but equally divided on, RSS services related to microcode.
  - Less than half are aware of RSS offerings for preventative maintenance, indicating that PE might increase user awareness or expand preventative maintenance coverage as necessary.
- The portion of PE users utilizing selected RSS system components are slightly but not significantly greater than the corresponding portions for all users as a group (see Exhibit III-5).
- The above data indicate that Perkin-Elmer is rather middle-of-the-road in offering their RSS services.

f. Extension of RSS

- The data, as shown in Exhibit III-66, indicate that users are equally divided in their desire to see RSS expanded and in their wish to return to on-site maintenance. The data suggest that users desire a combination of RSS and on-site maintenance as a preferred way for field engineering support.
- A significantly greater portion of PE users favor returning to on-site maintenance than do all users as a group, indicating that upgrading of PE's RSS services appears in order.

# EXHIBIT III-65

## RSS SYSTEM COMPONENT COVERAGE AS REPORTED BY PERKIN-ELMER USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	85%	15%	-
Systems Software	81	19	-
Applications Software	43	54	3%
Microcode	46	46	8
Preventative Maintenance	46	51	3

Sample Size 26

# EXHIBIT III-66

## EXTENDING RSS TO OTHER AREAS AS REPORTED BY PERKIN-ELMER USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	-
Leave As Is	8%
Improve Quality	-
Generally Extend	54
Return to On-Site Maintenance	54

Sample Size 26; Multiple Responses Possible

g. RSS Performance

- About half of responding PE users believe that PE's RSS services have improved the three major components of field service.
- For those users reporting improvement, over 40% indicate improvement exceeding 25%, indicating some combination of product reliability and field service problems, which RSS is helping to solve.
- The portion of PE users citing improvement for the three major field engineering components is significantly greater than the corresponding portions for all users as a group. The data would indicate that PE's RSS services are proving highly effective against a background of system and support problems.

h. RSS Satisfaction

- Nearly 70% of PE users, as shown in Exhibit III-67, like major components of PE's RSS service. This portion is significantly less than for all users as a group (see Exhibit III-8).
- PE users cite responsiveness and the availability of Tech Center expertise as major factors in their positive experience. These portions are significantly higher than those for all users as a group. The data might suggest major improvement in field engineering as a result of implementation of PE's RSS services.
- Of those PE users disliking RSS, as shown in Exhibit III-68, half cite lack of person-to-person communication. This portion is significantly greater than for all users as a group (see Exhibit III-9), again indicating the need for PE to improve its field service operation.



# EXHIBIT III-67

## RSS SERVICE COMPONENTS PARTICULARLY LIKED AS REPORTED BY PERKIN-ELMER USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	69%
Timeliness	67
Availability of Tech Center Experts	33
Software Responsiveness	6
Reduces Costs	6
Increases Reliability	6

Sample Size 26; Multiple Responses Possible

EXHIBIT III-68

RSS SERVICE COMPONENTS DISLIKED  
AS REPORTED BY PERKIN-ELMER USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	31%
Lack of Person-to-Person Communication	50
Security Requires Person-to-Person	13
Never Found It an Advantage	13
Need 24 Hr./7 Day/Week Service	13
Not Enough User Control	13
Employee Lost Time in Phone Calling	13

Sample Size 26; Multiple Responses Possible

i. RSS and the Hardware Purchase Decision

- Perkin-Elmer users, as shown in Exhibit III-69, are evenly divided as to the importance of RSS in the hardware purchase decision. The PE user portions correspond to those of all users as a group (see Exhibit III-10). This data is against the background of well-above-average improvement in major field service components, as shown in Exhibit III-70. One might expect that with some combination of system reliability and field service problems, RSS services would become more important to the users. It would appear that with proper structuring PE could better exploit its RSS services capabilities with end users.

j. RSS and System Security

- The data, as shown in Exhibit III-71, indicate that for PE users security is a real problem.
- The portion of PE users citing security as a real problem is almost twice that of all users as a group (see Exhibit III-11). Evidently PE users do not have adequate ways to deal with security issues. The information indicates that PE needs to devote attention to offering solutions to the security problem, first related to its RSS services and then perhaps to its systems in a more general sense.

k. Future RSS Developments

- The variety of user needs for future PE RSS offerings, as shown in Exhibit III-72, indicates PE's need to upgrade and expand its RSS service offerings.

EXHIBIT III-69

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY PERKIN-ELMER USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	33%
Moderately Important (4-7)	38
Unimportant (1-3)	29

Sample Size 24

# EXHIBIT III-70

## RSS PERFORMANCE AS REPORTED BY PERKIN-ELMER USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	>50%
Service Response Time	53%	14%	-	43%	7%
Service Repair Time	43	9	-	36	9
System Uptime	50	8	-	31	8
Level of Service Received	62	-	-	-	-

Sample Size 26

EXHIBIT III-71

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY PERKIN-ELMER USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	56%
Move Data Off-Line	29
Passwords	21
Security Package	14
Switch Off Processing	7

Sample Size 25

# EXHIBIT III-72

## NEEDED FUTURE RSS OFFERINGS AS REPORTED BY PERKIN-ELMER USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend to Systems Software	28%
Extend to Applications Software	24
Extend to Hardware (Peripherals)	20
Extend to All Areas	20
Extend Hardware Diagnostics	4
Extend 24 Hr. /Day, 7 Days /Week	4

Sample Size 25



## 6. HONEYWELL

### a. RSS Introduction

- Honeywell has offered RSS services on its mainframes as long as has any other vendor.
- Over 60% of the users responding, as shown in Exhibit III-73, had utilized Honeywell RSS services for more than three years. Nearly a quarter have been utilizing RSS services for more than five years.
- The portion of Honeywell users receiving RSS is second only to that of HP, with 33% market penetration (see Exhibit III-1).
- The portion of Honeywell users on RSS for more than three years is significantly greater than for all users as a group (see Exhibit III-2).

### b. RSS Product Coverage

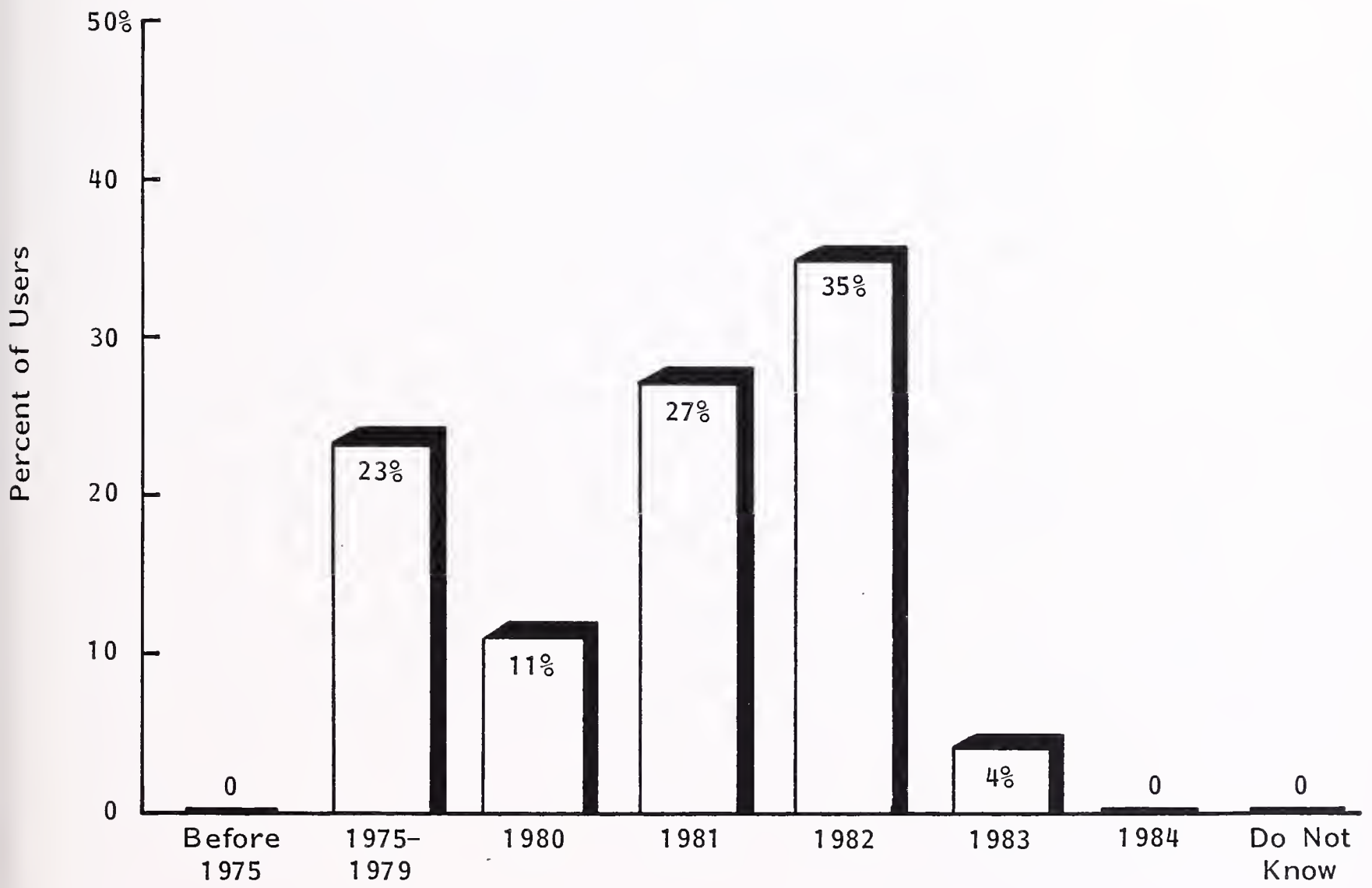
- The wide range of mainframes for which Honeywell provides RSS services is represented in the user sample, as shown in Exhibit III-74.

### c. RSS Start-up Costs

- The data, as shown in Exhibit III-75, clearly indicate that the user carries the proper responsibility for the start-up costs associated with RSS services.
  - Again user awareness of the retrofit component, if any, is vague.
- The portion of Honeywell users paying for initial RSS start-up costs is significantly greater than the corresponding portions for all users as a group (see Exhibit III-3).

EXHIBIT III-73

YEAR WHEN RSS BEGAN  
AS REPORTED BY HONEYWELL USERS



Sample Size 26

EXHIBIT III-74

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY HONEYWELL USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
Honeywell Level 6 DPS 6	8
Honeywell 62	7
Honeywell 64	5
Honeywell DPS 7	3
Honeywell 66	2
Honeywell 870	1

EXHIBIT III-75

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY HONEYWELL USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	82%	18%
Retrofit	14	14
Phone Line	79	21
Installation	79	21

Sample Size 28

- Indications are that RSS components are now integrated with more recent Honeywell product offerings.

d. RSS Service Costs

- Honeywell has not made use of discounting options to induce users to subscribe to the RSS services.
- Over 60% of users responding, as shown in Exhibit III-76, report that RSS is incorporated into their basic maintenance agreement. RSS costs are not desirable with respect to premium or discount.
- The portion of Honeywell users reporting that RSS services have been integrated into the basic maintenance agreement is significantly greater than for all users as a group (see Exhibit III-4).
- The data indicate that Honeywell could well use the service differentiation in inducing more users to avail themselves of its RSS services.

e. RSS Current Coverage

- As shown in Exhibit III-77, data indicate that Honeywell users responding utilize RSS services primarily for hardware and systems software. A number of users are involved in third-party and self-maintenance arrangements.
- The portion of Honeywell users availing themselves of RSS upon coverage is somewhat, but not significantly, less than for all users as a group (see Exhibit III-5).
- The low level of user awareness with respect to RSS preventative maintenance leaves room for some combination of heightened user awareness and extended RSS coverage by Honeywell.

EXHIBIT III-76

METHOD OF PAYMENT FOR RSS AS REPORTED BY  
HONEYWELL USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	25%	-	-	-	100%
Discount	10	-	100%	-	-
Other	65	-	-	-	100

Sample Size 20

# EXHIBIT III-77

## RSS SYSTEM COMPONENT COVERAGE AS REPORTED BY HONEYWELL USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	64%	36%	-
Systems Software	79	14	7%
Applications Software	40	60	-
Microcode	14	68	18
Preventative Maintenance	36	61	3

Sample Size 28



f. Extension of RSS

- Honeywell users receive a combination of on-site and RSS services as part of Honeywell field service arrangements.
- Only a quarter of the users responding, as shown in Exhibit III-78, were in favor of returning to on-site maintenance. This portion is significantly less than for all users as a group (see Exhibit III-6).
- A significantly greater portion of Honeywell users are satisfied with their existing RSS services than are all users as a group, another indicator of Honeywell's RSS effectiveness.

g. RSS Performance

- A number (approximately 20%) of Honeywell users have been on the service for so long that they have little basis for responding to improvement in field service operations.
- Approximately 40% of users responding, as shown in Exhibit III-79, reported improvements in major field service components as a result of Honeywell's RSS services. It is INPUT's position, based on the above data (satisfaction of longtime users), that the data understate RSS performance in relation to Honeywell field service.
- For those users reporting improvement, close to half indicate that service response time and repair time have increased by greater than 25%, percentages which are significantly greater than for all users as a group (see Exhibit III-7).

# EXHIBIT III-78

## EXTENDING RSS TO OTHER AREAS AS REPORTED BY HONEYWELL USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	4%
Leave As Is	25
Improve Quality	10
Generally Extend	36
Return to On-Site Maintenance	25

Sample Size 30; Multiple Responses Possible

# EXHIBIT III-79

## RSS PERFORMANCE AS REPORTED BY HONEYWELL USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	> 50%
Service Response Time	37%	-	18%	36%	9%
Service Repair Time	47	7%	21	36	14
System Uptime	43	15	31	15	15
Level of Service Received	40	-	-	-	-

Sample Size 30

h. RSS Satisfaction

- Honeywell users are generally well satisfied with the RSS service they receive. As shown in Exhibit III-80, 80% of users responding like Honeywell RSS service components. This portion is somewhat greater than for all users as a group (see Exhibit III-8). The fact that there are always horror stories in relation to field service operations shows up in Exhibit III-81, where issues of quality and inability to solve problems are cited as examples of RSS dissatisfaction.

i. RSS and the Hardware Purchase Decision

- Just over a quarter of Honeywell users, as shown in Exhibit III-82, believe that RSS capability is unimportant in the hardware purchase decision. This portion is somewhat lower than the portion for all users as a group (see Exhibit III-10). Not having been without RSS, users tend not to visualize what field service would be like without it.

j. RSS and System Security

- Security is not a major issue for Honeywell RSS users. Only 20% of Honeywell users, as shown in Exhibit III-83, rate security as an issue at all. This portion is significantly less than for all users as a group (see Exhibit III-11).

k. Future RSS Developments

- Honeywell users, as shown in Exhibit III-84, are most interested in future RSS services to assist users in problems with applications software, both Honeywell and software vendor-developed.

# EXHIBIT III-80

## RSS SERVICE COMPONENTS PARTICULARLY LIKED AS REPORTED BY HONEYWELL USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	80%
Timeliness	40
Ease of Diagnostics	20
Support from Home Office RSS Specialists	10
Software Patches over Phone	10
Convenience	10
Keeps Software Updated	5
Overall Cost Savings	5

Sample Size 25; Multiple Responses Possible

EXHIBIT III-81

RSS SERVICE COMPONENTS DISLIKED  
AS REPORTED BY HONEYWELL USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	20%
Lacks Person-to-Person Contact	20
Vulnerability	20
Not as Effective As On-Site	20
Inability to Solve Problems	20
Unacceptable Quality	20

EXHIBIT III-82

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY HONEYWELL USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	30%
Moderately Important (4-7)	43
Unimportant (1-3)	27

Sample Size 30



EXHIBIT III-83

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY HONEYWELL USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	21%
Passwords	32
Faith in Vendor	17
Built Security System	17
Protection on Mainframe	17
Unplugged It	17

Sample Size 28

EXHIBIT III-84

NEEDED FUTURE RSS OFFERINGS AS REPORTED BY  
HONEYWELL USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend to Applications Software	44%
Extend Hardware Coverage	30
Extend in All Areas	10
Fine as Is	7
Improve Quality of Service	3
Best Application of RSS is for Standalone Mini	3
Provide Adequate Security Systems	3

Sample Size 30

7. WANG

a. RSS Introduction

- Nearly half of the users interviewed, as shown in Exhibit III-85, were RSS subscribers for less than two years. This portion is significantly less than for all users as a group (see Exhibit III-2). The data suggest that Wang has not "sold" its RSS services to its user population.
- Further support for the above conclusion is found in the low market penetration (6%) among all Wang users contacted (see Exhibit III-1).

b. RSS Product Coverage

- From the user sample, as shown in Exhibit III-86, Wang's RSS services appear to center around its 2200 series office automation and minicomputer.

c. RSS Start-up Costs

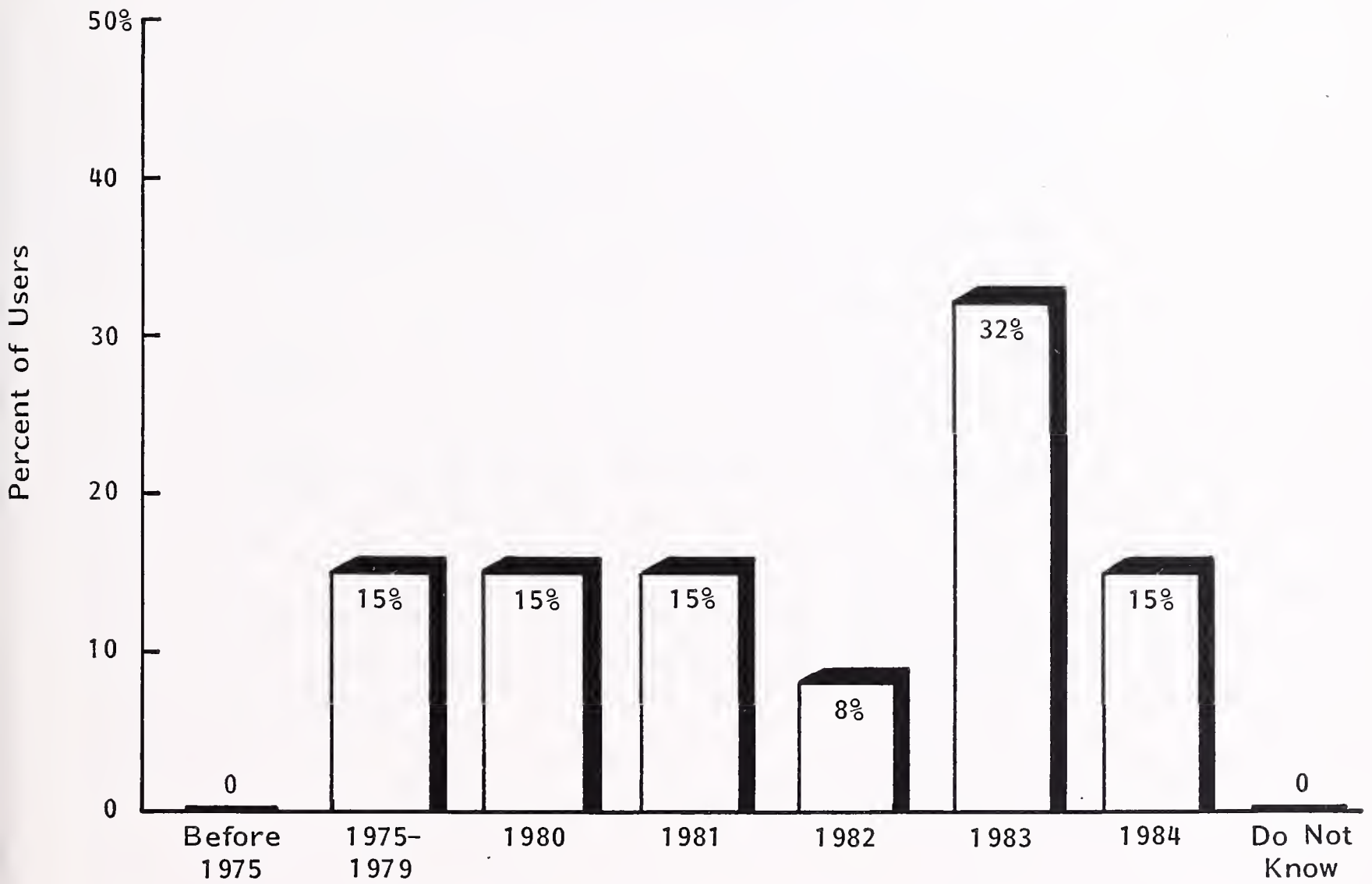
- The majority of Wang users, as shown in Exhibit III-87, have primary responsibilities for installation of the components for RSS start-up.
- The portion of Wang users paying for RSS start-up is close to the respective portions for all users as a group (see Exhibit III-3). The data suggest that Wang is giving users little incentive to utilize RSS.

d. RSS Service Costs

- It is evident from the data, as shown in Exhibit III-88, that Wang is not using discounting to induce users to avail themselves of this RSS services.
- Over three-fourths of users responding indicate that RSS services, as such, are included in the basic maintenance agreement. This portion is significantly

EXHIBIT III-85

YEAR WHEN RSS BEGAN  
AS REPORTED BY WANG USERS



Sample Size 13

EXHIBIT III-86

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY WANG USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
Wang 2200 MVP	3
Wang 2200 VS	2

# EXHIBIT III-87

## RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS AS REPORTED BY WANG USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	67%	33%
Retrofit	8	8
Phone Line	75	25
Installation	75	25

Sample Size 12

EXHIBIT III-88

METHOD OF PAYMENT FOR RSS AS REPORTED BY  
WANG USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	15%	-	-	-	100%
Discount	8	-	100%	-	-
Other	77	-	-	-	100

Sample Size 13



greater than the portion of all users as a group, indicating that Wang is doing little to differentiate its RSS services as a product offering.

e. RSS Current Coverage

- The small sample size of Wang users prevents adequate significance testing. However, the portion of Wang users availing themselves of RSS system components, as shown in Exhibit III-89, is just slightly greater than the corresponding portions for all users as a group (see Exhibit III-5).

f. Extension of RSS

- As shown in Exhibit III-90, nearly half of Wang users want in some combination to return to on-site maintenance and RSS. Of this portion, somewhat but not significantly greater than for all users as a group (see Exhibit III-6), the data suggest that users are less than fully satisfied with Wang's field service approach.

g. RSS Performance

- As shown in Exhibit III-91, less than half of Wang users responding felt that major components of field service were improved as a result of RSS. The portions are on a par with all users as a group (see Exhibit III-7).
- However, the major portion of users citing field service component improvement indicated that such improvement exceeded 50%. This data suggest some combination of equipment reliability and field service or problems.

h. RSS Satisfaction

- Wang users were at most lukewarm about liking Wang's RSS service offerings.

EXHIBIT III-89

RSS SYSTEM COMPONENT COVERAGE  
AS REPORTED BY WANG USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	77%	23%	-
Systems Software	85	15	-
Applications Software	38	62	-
Microcode	34	38	8%
Preventative Maintenance	46	54	-

Sample Size 13

# EXHIBIT III-90

## EXTENDING RSS TO OTHER AREAS AS REPORTED BY WANG USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	-
Leave As Is	23%
Improve Quality	-
Generally Extend	31
Return to On-Site Maintenance	46

Sample Size 13; Multiple Responses Possible

EXHIBIT III-91

RSS PERFORMANCE AS REPORTED BY WANG USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	>50%
Service Response Time	46%	-	17%	-	67%
Service Repair Time	23	-	-	-	67
System Uptime	46	17%	-	-	50
Level of Service Received	54	-	-	-	-

Sample Size 13

- Sample size does not permit significance testing; however, the portion of Wang users, as shown in Exhibit III-92, liking RSS is somewhat less than for all users as a group. The importance of responsiveness (timeliness), nearly twice that of all users as a group, might indicate more basic problems in Wang's field service operations.
- User comments, as shown in Exhibit III-93, further highlight the need for improvement in Wang's RSS program, as well as perhaps in their field service operations.

i. RSS and the Hardware Purchase Decision

- The problems with Wang's RSS offerings are clearly shown in the data of Exhibit III-94. Users' experiences indicated that nearly 60% of responding Wang users feel that RSS capability is very important in the hardware purchase decision.
- This portion is almost twice that of all users as a group (see Exhibit III-10), and, in this instance, significantly greater.
- It is INPUT's belief that the greater the problems in some combination of RSS, system reliability, and field service, the more important RSS capability becomes to the end user and his hardware purchase decision.

j. RSS and System Security

- The data, as shown in Exhibit III-95, indicate that security is not an issue with Wang users.
- The portion of Wang users citing security as a real problem is less than half for all users as a group and is, in this instance, significant.

EXHIBIT III-92

RSS SERVICE COMPONENTS PARTICULARLY LIKED  
AS REPORTED BY WANG USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	60%
Timeliness	83
Availability of Home Office Expertise	17

Sample Size 10; Multiple Responses Possible

# EXHIBIT III-93

## RSS SERVICE COMPONENTS DISLIKED AS REPORTED BY WANG USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	40%
Responsiveness Poor for Software	25
Parts Availability Poor	25
No Individual Attention	25
Communications Link Weak	25

Sample Size 10; Multiple Responses Possible



EXHIBIT III-94

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY WANG USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	58%
Moderately Important (4-7)	42
Unimportant (1-3)	0

Sample Size 12

EXHIBIT III-95

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY WANG USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	15%
Passwords	100

Sample Size 13

k. Future RSS Developments

- User expectations with respect to Wang's future RSS offerings are as shown in Exhibit III-96. Wang users' "wish-list" is consistent with those of all users as a group (see Exhibit III-12).

8. PRIME

a. RSS Introduction

- Some 60% of responding Prime users, as shown in Exhibit III-97, have been availing themselves of RSS for less than three years. This portion is somewhat less than for all users as a group (see Exhibit III-2).
- INPUT concludes that Prime has been slow in introducing RSS to its mini and megamini users.

b. RSS Product Coverage

- The wide range of RSS availability for Prime's mini/megamini computers is well represented in the data, as shown in Exhibit III-98.

c. RSS Start-up Costs

- It is clear from the data, as shown in Exhibit III-99, that the Prime users are almost exclusively responsible for providing necessary interface to Prime's RSS services.
- The portion of Prime users paying for RSS components is significantly greater than the corresponding portions for all users as a group (see Exhibit III-3).
- Prime users are not aware of the existence, if any, of a retrofit package.

EXHIBIT III-96

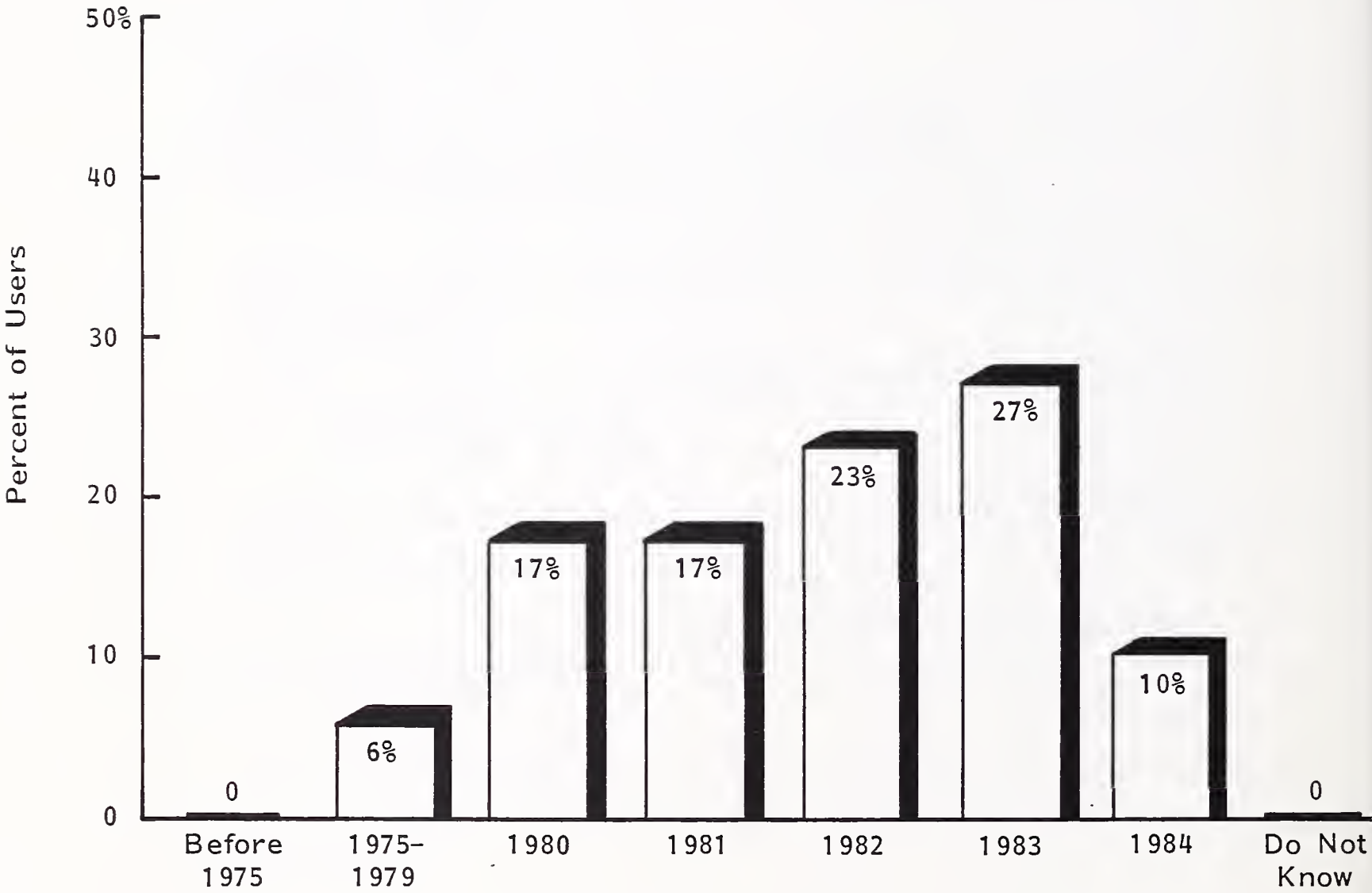
NEEDED FUTURE RSS OFFERINGS AS REPORTED BY  
WANG USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend to Applications Software	47%
Extend to Hardware (Peripherals)	23
Extend to All Areas	23
Extend to Parts Availability Scheduling	7

Sample Size 13

EXHIBIT III-97

YEAR WHEN RSS BEGAN  
AS REPORTED BY PRIME USERS



Sample Size 30

EXHIBIT III-98

PRODUCTS FOR WHICH RSS WAS PROVIDED  
AS REPORTED BY PRIME USERS

VENDOR PRODUCT	NUMBER OF USERS RESPONDING
Prime 750	8
Prime 550	6
Prime 450	2
Prime 850	1
Prime 400	1
Prime 350	1
Prime 250	1
Prime 2250	1
Prime 9950	1

EXHIBIT III-99

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY PRIME USERS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	87%	13%
Retrofit	13	4
Phone Line	100	0
Installation	91	9

Sample Size 23



- Other data suggest that Prime is doing little to induce users to avail themselves of their RSS services.

d. RSS Service Costs

- The data, as shown in Exhibit III-100, indicate that Prime is not using discounting as a major inducement to users for signing up with Prime's RSS services.
- Nearly 60% of responding Prime users believe RSS is tied into their basic maintenance agreement, the costs for which are not separable. This portion is significantly greater than for all users as a group (see Exhibit III-4).
- INPUT concludes that Prime is doing little to differentiate RSS in its product offerings.

e. RSS Current Coverage

- The major portion of responding Prime users, as shown in Exhibit III-101, are utilizing RSS services for hardware and systems software. These portions are consistent with those of all users as a group (see Exhibit III-5).
- Prime users are looking to Prime for applications software support in portions significantly greater than for all users as a group. The data suggest that Prime might achieve RSS product differentiation through extending support to specialized applications software developed or certified by Prime.
- The low portion (approximately one-third) of Prime users utilizing RSS for preventative maintenance clearly suggests that Prime can, through some combination of increased user awareness and extended coverage, as necessary, achieve RSS product differentiation.

EXHIBIT III-100

METHOD OF PAYMENT FOR RSS AS REPORTED BY  
PRIME USERS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	32%	-	-	-	100%
Discount	11	33	33	-	34
Other	57	-	-	-	100

Sample Size 28

# EXHIBIT III-101

## RSS SYSTEM COMPONENT COVERAGE AS REPORTED BY PRIME USERS

RSS SYSTEM COMPONENT COVERAGE	PERCENT OF USERS RESPONDING		
	YES	NO	DO NOT KNOW
Hardware	76%	24%	-
Systems Software	86	14	-
Applications Software	59	41	-
Microcode	31	66	3%
Preventative Maintenance	35	62	3

Sample Size 29

f. Extension of RSS

- Nearly 60% of responding Prime users, as shown in Exhibit III-102, favor some combination of returning to on-site maintenance and RSS. This portion is significantly greater than for all users as a group (see Exhibit III-6).
- The data suggest that Prime's RSS offerings contain some major deficiencies.

g. RSS Performance

- The data, as shown in Exhibit III-103, suggest that approximately 40% of responding Prime users believe significant components of field service have improved as a result of RSS offerings. The portions are on a par with that of all users as a group (see Exhibit III-7).
- The above data suggest that Prime users are not overly enthusiastic about Prime's RSS product offerings.

h. RSS Satisfaction

- Further evidence of the so-so nature of Prime's RSS offerings is shown in Exhibit III-104. Just over 60% of the responding Prime users like Prime RSS components. This portion is significantly less than the portion for all users as a group (see Exhibit III-8). RSS components favored are consistent with those for all users as a group.
- The data suggest there is little to differentiate Prime's RSS product offerings in the marketplace.
- The myriad problems with Prime's existing RSS offerings are highlighted in the comments shown in Exhibit III-105.

# EXHIBIT III-102

## EXTENDING RSS TO OTHER AREAS AS REPORTED BY PRIME USERS

OTHER RSS AREAS	PERCENT OF USERS RESPONDING
Software	7%
Leave As Is	10
Improve Quality	-
Generally Extend	40
Return to On-Site Maintenance	57

Sample Size 30; Multiple Responses Possible

EXHIBIT III-103

RSS PERFORMANCE AS REPORTED BY PRIME USERS

RSS COMPONENT	PERCENT OF USERS RESPONDING				
	IMPROVEMENT	DEGREE OF IMPROVEMENT			
		1-10%	11-25%	26-50%	50%
Service Response Time	47%	7%	14%	21%	21%
Service Repair Time	40	8	25	33	17
System Uptime	37	27	18	18	18
Level of Service Received	5	-	-	-	-

Sample Size 30

# EXHIBIT III-104

## RSS SERVICE COMPONENTS PARTICULARLY LIKED AS REPORTED BY PRIME USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Like RSS	62%
Timeliness	40
Support from Home Office Specialists	26
Convenience	13
Ease of Diagnostics	7
Do Not Have to Depend on Local Support	7
Access to Software Problem Solutions	7

Sample Size 24; Multiple Responses Possible



# EXHIBIT III-105

## RSS SERVICE COMPONENTS DISLIKED AS REPORTED BY PRIME USERS

RSS SERVICE COMPONENTS	PERCENT OF USERS RESPONDING
Dislike RSS	38%
Need Field Engineers to Solve Problems	34
Hard to Get Response on 800 Number	22
Gets Fouled Up	11
Takes Too Long to Diagnose	11
Cannot Locate Software Bugs	11
Support Too Far Away at Home Office	11

i. RSS and the Hardware Purchase Decision

- Nearly half of responding Prime users, as shown in Exhibit III-106, believe RSS is unimportant in the hardware purchase decision. High product reliability and satisfaction with on-site maintenance, often reported by Prime users, could explain the relative disinterest in coupling RSS capability with the hardware purchase decision.
- The portion of Prime users disinterested in Prime RSS capability when making a hardware purchase decision is significantly higher than for all users as a group (see Exhibit III-10).
- INPUT interprets the data to indicate that Prime has a significant opportunity to improve RSS product offerings and to increase user satisfaction.

j. RSS and System Security

- Over a third of Prime users, as shown in Exhibit III-107, indicated that security is a real problem. Here this portion is significantly greater than for all users as a group (see Exhibit III-11).
- The data suggest that Prime could well expand its RSS product offerings to include handling security in a consistent way.

k. Future RSS Developments

- The general need for Prime to revise and upgrade its RSS product offerings is highlighted in the data, as shown in Exhibit III-108.

9. NCR AND BURROUGHS

- Seventy interviews were attempted with NCR users without uncovering any users utilizing RSS services (see Exhibit III-1).

EXHIBIT III-106

IMPORTANCE OF RSS CAPABILITY IN  
THE HARDWARE PURCHASE DECISION AS REPORTED BY PRIME USERS

IMPORTANCE (Scale of 1-10)	PERCENT OF USERS RESPONDING
Very Important (8-10)	24%
Moderately Important (4-7)	28
Unimportant (1-3)	48

Sample Size 25

EXHIBIT III-107

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY PRIME USERS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	37%
Password System	37
Multi-Level Software Security Program	27
Trust Prime As a Vendor	18
Come in on Special Line	9
Switch Data Off-Line	9

Sample Size 30

# EXHIBIT III-108

## NEEDED FUTURE RSS OFFERINGS AS REPORTED BY PRIME USERS

RSS OFFERINGS	PERCENT OF USERS RESPONDING
Extend All Areas	47%
Extend to Software	24
Extend Hardware (Peripherals)	19
Extend Hardware Diagnostics	5
More Information for Users	5

Sample Size 21

- Another 85 interviews were attempted with Burroughs users, with only two receiving RSS.
- INPUT concludes that NCR and Burroughs have not been actively offering RSS services, either directly, or in conjunction with on-site field service operations.





#### IV VENDOR ANALYSIS



## IV VENDOR ANALYSIS

### A. ANALYSIS BY GROUP

- The vendor analysis that follows does not include NCR and Burroughs. Both vendors declined to participate in the study.

#### I. INTRODUCTION OF RSS INTO THE MARKET

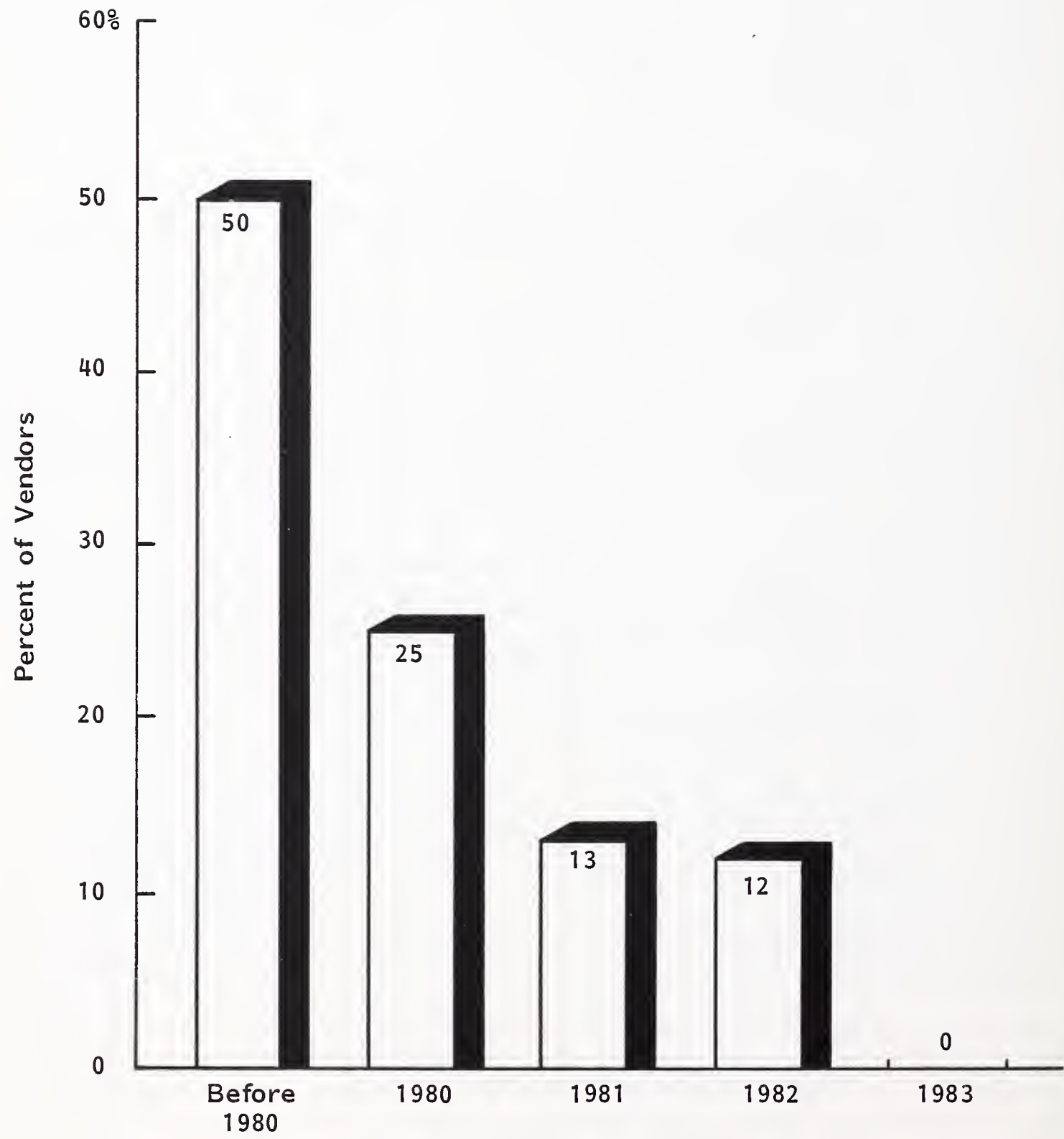
- The study showed that vendors have been slow to penetrate the computer systems market with their RSS services.
- Although, as shown in Exhibit IV-1, three-fourths of the vendors introduced RSS in 1980 or before, the data indicate approximately a two-year lag in the peak year of RSS services introduction (1982). (See Exhibit III-2.)

#### 2. RSS START-UP COSTS

- Vendors as a group, as shown in Exhibit IV-2, have placed the primary responsibility for installing the RSS interface with the subscribing user.
- Stated vendor policy is consistent with user experience (see Exhibit III-3).
- Although the data suggest that vendors are making some "deals," as a group they are doing little to induce users to subscribe to their RSS services.

EXHIBIT IV-1

YEAR RSS BEGAN AS REPORTED BY VENDORS



Sample Size 8

EXHIBIT IV-2

PRIMARY RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY VENDORS

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	63%	37%
Retrofit Package	63	12
Phone Line	88	12
Installation	75	12

Sample Size 8

### 3. RSS SERVICE COSTS

- The study shows that discounting is not a primary method of vendor RSS pricing.
- The data, as shown in Exhibit IV-3, indicate that nearly 90% of the vendors bundle RSS pricing in the basic maintenance agreement. By doing so, nearly a third of the users (see Exhibit III-4) perceive they are paying a premium, almost three times that which vendors state as policy. If indeed RSS is reducing the field service costs overall, users do not see vendors passing a portion of the savings on to them.
- The users' data suggest that vendors, under special circumstances, are offering discounts in conjunction with RSS services.

### 4. RSS CURRENT COVERAGE

- Not surprisingly, as shown in Exhibit IV-4, all vendors offer basic RSS services for hardware and systems software, but only half for applications software and still less for other RSS components.
- Vendor policy has some variance with user experience (see Exhibit III-5).
- Some users having RSS are not availing themselves of either the vendors' hardware or software support (or both). Third-party maintenance agreements could partly explain the differences. High systems reliability and recent subscription to RSS could also support the differences. In any event, vendors would do well to better highlight the availability of their RSS services within their basic maintenance agreements.
- The low level of RSS for preventative maintenance (12%) is at variance with user understanding (see Exhibit III-5) of RSS services provided. Although vendors may appear fortunate in this regard, INPUT believes that vendors

# EXHIBIT IV-3

## PRIMARY METHOD OF PRICING FOR RSS AS REPORTED BY VENDORS

METHOD	PERCENT OF USERS RESPONDING				
	RECEIVING	1-5%	6-10%	>10%	OTHER
Premium	13%	-	-	--	100%
Discount	-	-	-	--	-
Bundled	87	-	-	-	100

Sample Size 8



EXHIBIT IV-4

LEVEL OF RSS COVERAGE PROVIDED  
AS REPORTED BY ALL VENDORS

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	100%
Systems Software	100
Applications Software	50
Microcode	25
Preventative Maintenance	12

need to both clarify user understanding and to extend their RSS coverage to include wider use of preventative maintenance.

## 5. USER CONSIDERATIONS

- Just over 60% of vendors as a group, as shown in Exhibit IV-5, involve users in their decision to offer RSS. The data support the general finding that vendors have not "sold" RSS to the user base, resulting in the low level of market penetration (18%).

## 6. SECURITY

- As shown in Exhibit IV-6, vendors have a greater awareness of the problems of security when interfacing RSS with user in-house systems. Vendor recognition is more than twice that of users as a group (see Exhibit III-11).
- However, vendors report little in the way of RSS offerings to help solve the security interface.
- INPUT believes that security in the RSS environment will soon become a major issue, and the vendors would do well to recommend and, as necessary, provide solutions during the RSS process.

## 7. IMPACT ON FIELD SERVICE

- Vendors as a group, as shown in Exhibit IV-7, firmly believe that RSS has resulted in improvement in three major field service components, (response time, repair time, and uptime). Their assesment is significantly higher than that reported by all users as a group (see Exhibit III-7). The differences are perhaps explained by the fact that a number of users (estimated at 20%) in the survey sample have always had RSS, and hence have had no basis by which to estimate improvement.

EXHIBIT IV-5

INFLUENCE OF USERS IN DECISION TO OFFER RSS  
AS REPORTED BY VENDORS

DECISION	PERCENT OF VENDORS INFLUENCED*	
	YES	NO
To Offer RSS	63%	37%

Sample Size 8

EXHIBIT IV-6

SECURITY AS AN ISSUE WHEN USING RSS  
AS REPORTED BY VENDORS

SECURITY ISSUES	PERCENT OF USERS
Security a Real Problem	63%
More User Control Over RSS	38
Encourage Customer Confidence	25

Sample Size 8

# EXHIBIT IV-7

## IMPACT OF RSS ON FIELD SERVICE AS REPORTED BY VENDORS

RSS COMPONENT	PERCENT OF VENDORS	
	IMPROVEMENT	UNCHANGED
Response Time	63%	13%
Repair Time	75	13
Uptime	50	-
Increased FE Skill Levels	25	13
Decreased FE Manpower Levels	25	25

Sample Size 8

- Vendor assessment of RSS contribution to field engineering skill levels and decrease field maintenance costs may perhaps explain why vendors are not using discounting or indeed other marketing techniques to increase RSS market penetration.

## 8. COMMITMENT TO RSS

- As a group, vendors are heavily committed to RSS. As shown in Exhibit IV-8, the commitment level of nearly 90% of vendors as a group is high, confirmed by the same proportion increasing investment.
- The data suggest that vendors are becoming increasingly aware of the importance of RSS to overall field service operation and may well take at least some of the actions highlighted by the survey results.

## 9. MARKET TRENDS

- As shown in Exhibit IV-9, involving the user more in the RSS interface by vendors is at least encouraging.
- On the other hand, the extended time frame for implementation runs counter to the high level of commitment previously stated (see Exhibit IV-8).
- Vendors do not perceive discounting as a method of inducing greater user subscription to RSS services. Apparently vendors as a group feel that RSS, in an overall sense, add to rather than reduce field engineering costs. Evidently most vendors consider RSS as an adjunct to on-site maintenance in the FE environment. INPUT believes that more cost/effective analysis of RSS would highlight its values as an independent FE distribution channel, and at a lower cost to on-site maintenance.

EXHIBIT IV-8

COMMITMENT TO RSS AS REPORTED BY VENDORS

COMMITMENT	PERCENT OF VENDORS			
	HIGH	MEDIUM	LOW	INCREASE
Level	87%	13%	-	-
Investment	-	-	-	87%

Sample Size 8



# EXHIBIT IV-9

## MARKET TRENDS IN RSS AS REPORTED BY VENDORS

TRENDS	PERCENT OF VENDORS AGREEING*
Extensive Growth in RSS	63%
More User Involvement in RSS	63
Small Systems Only	13
Medium/Large Systems Also	50
More Discounting	13
Time Frame	
1 - 2 Years	13
2 - 3 Years	13
3 - 5 Years	38

Sample Size 8

## 10. RSS EFFECTIVENESS

- Vendors as a group did not respond with measures of RSS effectiveness after installation. Those vendors that did respond were vague in supplying measures. This may be due to the possibility that analysis, if any, is conducted by groups in other parts of the company, or that respondents were reluctant to discuss or reveal their measures and findings.
- INPUT believes that vendors must establish objective criteria in relation to RSS effectiveness to insure that this field service distribution methodology is continuously evaluated.

## 11. COST/BENEFIT ANALYSIS

- Vendors as a group did not respond to INPUT's questions concerning return investment or cost/benefit analysis. Either such analysis is conducted in parts of the company other than that of the respondents, or vendors have not conducted adequate analysis to the effectiveness of RSS as a field engineering distribution channel and so were unable to answer.
- INPUT believes that vendors will experience increasing pressure to unbundle RSS services, considering a cost/effective basis as an independent of field service distribution channel.

## B. ANALYSIS BY VENDOR

### I. AMDAHL

- Amdahl has had an RSS program since 1977.
- RSS coverage is as shown in Exhibit IV-10.

EXHIBIT IV-10

RSS COVERAGE CURRENTLY PROVIDED BY AMDAHL

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	No
Microcode	No
Preventative Maintenance	No

- RSS prices are added to the basic monthly maintenance charge. RSS is not a line item in the basic maintenance agreement.
- As shown in Exhibit IV-11, Amdahl is responsible for all start-up costs.
- RSS was introduced by advertising it as free to users.
- RSS services are available for virtually all IBM plug-compatible CPUs.
- Amdahl established its RSS service as a result of interaction with potential users.
- Security is not an issue to Amdahl. The vendor feels user complaints are a blanket designed to cover users' other problems.
- Amdahl believes that RSS has improved response, repair, and system uptime as well as FE skill levels and has somewhat reduced field engineering manpower levels.
- Amdahl has a high commitment to and an increasing investment in RSS.
- Amdahl sees RSS as a field service delivery methodology expanding over the next three to five years as on-site maintenance costs continue to escalate.

## 2. IBM

- IBM instituted RSS for 370/155 and large systems in the 1960s.
- RSS support coverage is as shown in Exhibit IV-12.
- As shown in Exhibit IV-13, IBM normally looks to the user to pay RSS start-up costs. However, the policy is flexible and pays for some components under "special" circumstances.

# EXHIBIT IV-11

## RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS AS REPORTED BY AMDAHL

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	No	Yes
Retrofit Package	No	Yes
Phone Line	No	Yes
Installation	No	Yes

EXHIBIT IV-12

RSS COVERAGE CURRENTLY PROVIDED BY IBM

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	Some
Microcode	Yes
Preventative Maintenance	No

# EXHIBIT IV-13

## RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS AS REPORTED BY IBM

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	Normally	Sometimes
Retrofit Package	Normally	Sometimes
Phone Line	Normally	Sometimes
Installation	Normally	Sometimes



- RSS is included as part of the basic monthly maintenance agreement. Occasionally discounts are offered, particularly for large systems.
- With a customer base accustomed to excellent on-site maintenance, IBM decided to announce RSS and to treat dealer anxieties. They experienced no problem with their field engineers who were brought in at the early-development stage.
- IBM involved selected users in its decision to offer RSS services. IBM sees security as an issue at the RSS interface and gives the customer the ability to monitor RSS/mainframe interaction.
- IBM still provides on-site engineering for its larger installations, but believes that, for its smaller systems, RSS has improved response, repair, and system up-time with corresponding decrease in FE skill and manpower levels.
- IBM reports a high commitment to and an increased investment in RSS.
- IBM believes that RSS will significantly expand over the next three to five years primarily in the mini and micro area, with greater user involvement in the RSS process.

### 3. DEC

- DEC has offered RSS services since 1978.
- DEC was influenced by its users in the development of its RSS offering.
- RSS coverage is as shown in Exhibit IV-14.
- Except for large systems, DEC looks toward the user, as shown in Exhibit IV-15, to pay for RSS start-up costs.

EXHIBIT IV-14

RSS COVERAGE CURRENTLY PROVIDED BY DEC

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	No
Microcode	No
Preventative Maintenance	No

EXHIBIT IV-15

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY DEC

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	Mostly	Large Systems
Retrofit Package	Mostly	Large Systems
Phone Line	Mostly	Large Systems
Installation	Mostly	Large Systems

- RSS services are included as part of the maintenance agreement but not as a separate item. Discounts are inherent in the maintenance agreements for larger systems.
- RSS was introduced smoothly in the field service organization through meetings which offered assurance of job security.
- DEC believes that RSS has improved both response and repair time but has otherwise had little impact on the field service organization.
- DEC reports a high commitment to and an increased investment in RSS.
- DEC sees growth in RSS primarily for larger systems with more user involvement.

#### 4. HEWLETT-PACKARD

- HP has been offering RSS services for at least four years.
- Current RSS coverage is as shown in Exhibit IV-16.
- HP has recently integrated major RSS interface components into its newer equipment, with customer responsibility being primarily related to providing the phone line, as shown in Exhibit IV-17. INPUT interprets that the user data collected (see Exhibit III-51) indicate that the change in RSS start-ups by HP is recent.
- HP encourages users to subscribe to RSS services through a discounting policy.
- HP instituted an extensive program of advertising, which included press releases and brochures, to foster a positive reaction from both its users and its field engineering staff.

EXHIBIT IV-16

RSS COVERAGE CURRENTLY PROVIDED BY HEWLETT-PACKARD

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	Yes
Microcode	No
Preventative Maintenance	No

# EXHIBIT IV-17

## RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS AS REPORTED BY HEWLETT-PACKARD

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	No	Yes
Retrofit Package	No	(1)
Phone Line	Yes	No
Installation	No	(1)

(1) Embedded in System

- HP believes its RSS coverage is close to 50% of its installed base. Its position is consistent with the study findings (see Exhibit III-1).
- HP believes that security at the RSS interface is an issue; it advises users on available products through its customer education program.
- HP has a high commitment to and an increased investment in RSS.
- HP sees RSS expanding in the current marketplace, with more user involvement and greater integration of hardware/software support.

#### 5. PERKIN-ELMER

- PE instituted an RSS program between 1979 and 1980. PE did not involve the end users in the development of its RSS offering.
- RSS coverage is as shown in Exhibit IV-18. PE is the only vendor to give attention to RSS services involving preventative maintenance.
- Initial installation cost for RSS components is as shown in Exhibit IV-19. Newer PE product offerings incorporate the modem. This probably accounts for the difference between PE policy and end user experience (see Exhibit III-63).
- PE incorporates RSS into the basic maintenance agreement at no additional charge to the user. Some users, however, feel they receive some RSS services at a premium and others at a discount (see Exhibit III-64).
- PE indicates that RSS was introduced without problem to its field engineering force but with some concern to its users, particularly with respect to security.



EXHIBIT IV-18

RSS COVERAGE CURRENTLY PROVIDED BY PERKIN-ELMER

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	No
Microcode	Yes
Preventative Maintenance	Yes

EXHIBIT IV-19

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY PERKIN-ELMER

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	No	Yes
Retrofit Package	No	(1)
Phone Line	Yes	No
Installation	Yes	No

(1) Incorporated in Product

- PE indicates that RSS is available for all of its installed systems. Their position is certainly at variance with the low penetration rate (14%) found in the survey (see Exhibit III-1). Some of the disparity could be accounted for by PE systems having been installed under OEM arrangements or maintained under third-party maintenance agreements.
- PE has provided for handling the security issue at the RSS interface through a special locking system, where the customer controls RSS access to the PE mini/mega minicomputers.
- PE is rather neutral as to the impact of RSS on the effectiveness of its field engineering operations. Some improvement in system uptime was reported. User survey data indicate user ambivalence. The data suggest that review and improvement of PE RSS services are in order.
- PE indicates a high commitment to RSS but is without comment on increasing RSS investment.
- PE looks toward discounting to increase RSS penetration in the current marketplace.

## 6. HONEYWELL

- Honeywell started its RSS program in 1978. Users were involved in the development of its RSS program.
- RSS coverage is as shown in Exhibit IV-20.
- Honeywell does provide RSS services through an update facility on applications software originated or offered by Honeywell.
- Except in a special circumstance such as that of a large account, Honeywell, as shown in Exhibit IV-21, looks to the user to pay for initial RSS start-up

EXHIBIT IV-20

RSS COVERAGE CURRENTLY PROVIDED BY HONEYWELL

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	Yes
Microcode	No
Preventative Maintenance	No

# EXHIBIT IV-21

## RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS AS REPORTED BY HONEYWELL

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	Normally	Sometimes
Retrofit Package	-	Yes
Phone Line	Normally	Sometimes
Installation	Normally	Sometimes

costs. Honeywell policy is consistent with Honeywell user data (see Exhibit III-75).

- Honeywell users must get their "extended service" in order to use RSS. The extended service is at an additional cost but is included in the maintenance agreement. RSS, as such, is not broken out, so it is not easily desirable to the user. Honeywell user data is consistent with Honeywell policy (see Exhibit III-76).
- Honeywell initially experienced some resistance to RSS by its field engineering force. Operating experience has overcome this problem.
- Honeywell gives the user a great deal of control over the RSS process and has not found security to be an issue.
- Honeywell has a high commitment to and an increased investment in RSS.
- Honeywell believes RSS will greatly expand over the next three to five years as on-site field engineering costs continue to escalate.

## 7. WANG

- Wang has implemented its RSS program within the past two years. Users were involved in development of their RSS offering.
- RSS coverage is as shown in Exhibit IV-22. In addition to hardware and systems software, Wang provides a degree of software support for its office automation applications software.
- Wang policy, with respect to RSS start-up costs, is as shown in Exhibit IV-23. However, Wang user data indicate that in special circumstances Wang is involved in the establishment of the initial RSS interface (see Exhibit III-87).

EXHIBIT IV-22

RSS COVERAGE CURRENTLY PROVIDED BY WANG

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	Yes
Microcode	No
Preventative Maintenance	No



EXHIBIT IV-23

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY WANG

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	Yes	No
Retrofit Package	-	No
Phone Line	Yes	No
Installation	Yes	No

- Wang reports that RSS costs are integrated with their basic service agreement. At times Wang does offer discounts. Wang user data generally confirm Wang's policy (see Exhibit III-88).
- Wang introduced, without problems, its RSS to FEs through company seminars and to users through advertising and brochures; evidently, from the low penetration rate, it was without much success (see Exhibit III-1).
- Security has been an issue to Wang at the RSS interface. Wang has taken the customer education route. INPUT believes that security in the office automation environment is not yet a major issue, which may account for the low interest on the part of Wang users (see Exhibit III-95).
- Wang reports some general improvement in the response, repair, and system uptime as a result of implementing RSS.
- Wang has somewhere between medium to high commitment to RSS, with increased investment in relationship to new product offerings.
- Wang sees large RSS growth over the next two or three years, with greater user involvement in the RSS process, particularly with small systems.

## 8. PRIME

- Prime established its RSS program in late 1981. The users were not involved in the RSS product development cycle.
- Current RSS coverage is as shown in Exhibit IV-24. User perception of Prime RSS coverage differs somewhat from that of corporate policy (see Exhibit III-101). Until recently, applications software was supported through marketing.

EXHIBIT IV-24

RSS COVERAGE CURRENTLY PROVIDED BY PRIME

SYSTEM COMPONENT	PERCENT OF VENDORS SUPPLYING COVERAGE
Hardware	Yes
Systems Software	Yes
Applications Software	No
Microcode	No
Preventative Maintenance	No

- Primary responsibility for initial RSS start-up costs are as shown in Exhibit IV-25. Corporate policy and Prime user data are consistent (see Exhibit III-99).
- Prime includes RSS in its basic maintenance agreement. Discounts are given in selected instances. RSS is not broken out as a separate line item. In general, vendor policy is reflected in Prime user data (see Exhibit III-100).
- Prime does not believe that security is an issue in its customer base.
- Prime reports that its system response and repair time have been improved with some decrease in the need for FE skill levels (particularly for software) as a result of implementing its RSS services.
- Prime reports a high commitment to and an increased investment in RSS.
- Prime reports growth in the current RSS marketplace with regard to small as well as large systems, with greater user involvement in remote support. Prime looks to DEC with regard to trends in discounting.

#### 9. NCR AND BURROUGHS

- Both NCR and Burroughs declined to participate in this study.

EXHIBIT IV-25

RESPONSIBILITY FOR PAYMENT OF RSS COMPONENTS  
AS REPORTED BY PRIME

RSS COMPONENT	WHO PAYS	
	USER	VENDOR
Modem	Yes	No
Retrofit Package	-	None
Phone Line	Yes	No
Installation	Yes	No





